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COAL-MINE ACCIDENTS IN THE UNITED STATES, 1896-1912

WITH

MONTHLY STATISTICS FOR 1912

COMPILED BY
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COAL-MINE ACCIDENTS IN THE UNITED STATES, 1896–1912, WITH MONTHLY STATISTICS FOR 1912.

Compiled by FREDERICK W. HORTON.

PRELIMINARY STATEMENT.

During the calendar year 1912 there were 2,360 men killed in and about the coal mines of the United States. Based on an output of 550,000,000 short tons of coal produced by 750,000 men, the number of men killed for every 1,000,000 tons of coal mined was 4.29 and the death rate per 1,000 employed was 3.15.[a] The number of men killed was the least since 1906, the death rate per 1,000 employed was the smallest since 1899, the death rate per 1,000,000 tons of coal mined was the lowest, and the number of tons of coal produced in proportion to the number of men killed was the greatest on record. These facts offer indisputable evidence that conditions tending toward safety in coal mining are actually improving and that coal is now being mined with less danger to the miner than ever before. The general improvement in 1912 as compared with 1911 is shown by the following facts:

In 1912 the number of men killed in the coal mines of the United States was 359 less than in 1911—2,360 as compared with 2,719—a decrease of 13.2 per cent, and this in spite of the fact that there were more men employed in the mines and more coal mined than in any previous year.

The death rate per 1,000 men employed in 1912 was 3.15, as against 3.73 in the previous year, a decrease of 15.5 per cent.

During 1912 for every 1,000,000 tons of coal mined 4.29 men were killed, as compared with 5.48 men in 1911, a decrease of 21.7 per cent.

There was 233,000 tons of coal mined for each man killed in 1912, as compared with 183,000 tons in 1911, an increase of 50,000 tons, or 27.3 per cent.

Although the improvement in 1912 was greater than in any previous year for which accurate statistics are available, partly due, perhaps, to exceptionally mild weather during the last few months

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[a] Statistics for 1912 are subject to slight revision.

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of the year decreasing the likelihood of disastrous coal-dust explosions, there has been an annual improvement for a number of years, as indicated by the accompanying table (Table 1).

Table 1.—*Number of men killed in and about the coal mines in the United States in the calendar years 1907 to 1912, inclusive, with death rates.*

Years.	Number killed.			Production per death, short tons.
	Total.	Per 1,000 employed.	Per 1,000,000 short tons mined.	
1907	3,197	4.88	6.93	144,000
1908	2,449	3.64	6.05	165,000
1909	2,668	4.00	5.79	173,000
1910	2,840	3.92	5.66	177,000
1911	2,719	3.73	5.48	183,000
1912	2,360	3.15	4.29	233,000

It will be noted from the foregoing table that the death rate per 1,000,000 tons of coal mined has decreased annually, that the production per death has increased each year since 1907, and that the death rate per 1,000 men employed has steadily decreased during the last four years.

This general improvement has been brought about by a combination of causes, the principal one of which has been more efficient and effective mine inspection on the part of the State mining departments and State mine inspectors throughout the country, supplemented by greater care on the part of both the operators and the miners. The investigative and educational work of the Bureau of Mines has kept both the operator and the miner alive to the various dangers connected with coal mining and has shown what precautions should be taken to avoid these dangers. The bureau is therefore gratified with the improvement shown, particularly as the greatest improvement relates to dangers concerning which the bureau has been conducting special investigations, as is shown later. The bureau, however, can not too strongly express its appreciation of the cooperation of the State mining officials and the operators in the work of making coal mining safer.

Although there has been an annual improvement in mine-safety conditions since 1907, and a particularly notable one in 1912, a still greater decrease in the death rate can be effected. Whether or not such an improvement will be made in 1913 depends largely on the care exercised by the operators, superintendents, foremen, and all others in authority, and by the miners as well, to prevent the rise of dangerous conditions and to avoid unnecessary risks when such conditions have arisen.

ACKNOWLEDGMENTS.

Although a few years ago accurate statistics of coal-mine accidents in the United States were entirely lacking, this bureau is now able to publish statistics for the country as a whole shortly after the close of the year. Such prompt publication of the statistics of fatalities during 1912 has been made possible by the cordial cooperation and assistance of every State coal-mine inspector through a cooperative agreement by which the inspectors have furnished this bureau monthly reports of the fatal accidents in the coal mines of their respective States. The monthly reports of the State officials have been supplemented by reports from individual operators in the States of California, Georgia, Idaho, and Oregon, in which there is no system of State coal-mine inspection, and from the operators in the State of Virginia, where the present system of mine inspection was not in effect during the entire year. The thanks of the bureau are, therefore, due not only to the State mine officials for their kindly cooperation and assistance but also to the corporations, companies, and individual operators who have made reports to the bureau.

The cooperative agreement with the State coal-mine inspectors by which this bureau has received monthly reports of accidents has not only made possible the prompt publication of the statistics, but it has also enabled the bureau to classify the fatalities by months and according to cause, showing the months in which the greatest and the least number of men were killed and from what causes—something that has never before been accomplished for this country.

The bureau takes pleasure in making due acknowledgments to C. H. Nesbitt, chief inspector, and to W. W. Kicker, David Kelso, J. F. Webb, W. R. Ray, Frank Hillman, and Thomas Roscoe, district inspectors, of Alabama; to S. S. Smith, United States mine inspector for Alaska; to T. A. Freeze, State mine inspector, of Arkansas; to James Dalrymple, chief inspector, of Colorado; to J. E. Jeffreys, R. T. Rhys, and Edward Sweeney, State mine inspectors, of Iowa, and to L. E. Stamm, secretary to Iowa mine inspectors; to Frank I. Pearce, deputy inspector, of Indiana; to Richard Newsam and Martin Bolt, president and chief clerk of the Illinois State mining board; to Leon Besson, State secretary of mines, of Kansas; to Prof. C. J. Norwood, chief mine inspector, of Kentucky; to William Walters, mine inspector, of Maryland; to P. F. Powers, commissioner of labor, and Andrew Stevenson, mine inspector, of Michigan; to George Bartholomaeus, secretary of the Missouri bureau of mines, mining, and mine inspection, and to H. H. Bradden and Michael Gavin, coal-mine inspectors, of Missouri; to J. B. McDermott, coal-mine inspector, of Montana; to R. H. Beddow, State mine inspector, of New Mexico; to T. R. Atkinson, State engineer, and J. W. Bliss, assistant State

mine inspector, of North Dakota; to J. C. Davies, chief inspector of mines, and to Miss Mary A. Kincaid, chief clerk of the State mining board, of Ohio; to Ed Boyle, chief mine inspector, of Oklahoma; to J. E. Roderick, chief of the department of mines, of Pennsylvania; to G. E. Sylvester, chief inspector, and to John Rose and Joseph Richards, district inspectors, of Tennessee; to Isadore Broman, State mine inspector, of Texas; to J. E. Pettit, State coal-mine inspector, of Utah; to J. B. Doherty, commissioner of labor, of Virginia; to D. C. Botting, State coal-mine inspector, of Washington; to John Laing, chief of the West Virginia department of mines, and to Karl F. Schoew, Frank E. Parsons, L. D. Vaughn, W. B. Plaster, E. A. Henry, J. H. Jackson, James Martin, R. Y. Muir, L. B. Holliday, Arthur Mitchell, William Nicholson, and H. H. Pinkney, district inspectors, of West Virginia; and to George Blacker and W. E. Jones, district mine inspectors, of Wyoming.

STATISTICS OF FATAL ACCIDENTS FROM 1896 TO 1912.

The lack of comparable and accurate statistics of coal-mine accidents in the United States as a whole, and the importance of such statistics as a record of what has taken place, a basis for remedial legislation, and as a measure of the results of the bureau's endeavor to lessen the hazard of coal mining, led the bureau in 1911 to undertake the collection of such data. The only reliable records from which such statistics could be compiled were the reports of the State coal-mine inspectors, and these were, therefore, used as a basis for the compilation of a table showing the number of men killed by calendar years from 1896 to 1910, inclusive.

The figures derived from the inspectors' reports for 1910 were supplemented by data furnished by the operators in those States having no system of coal-mine inspection. When the compilation was commenced, an attempt was made to classify the fatalities by causes, but this was found to be impossible, owing to the incompleteness of many of the State reports. Moreover, it was only with great difficulty that the statistics could be collated at all. The reports of many States covered fiscal years that did not coincide with the calendar years or with the fiscal years covered by the reports of other States; some reports listed only men killed underground, whereas others included men killed on the surface; many listed the deaths of nonemployees, perhaps visitors in a mine, whose deaths were not properly chargeable to the coal-mining industry; others included deaths from natural causes, such as apoplexy, heart failure, etc., and still others included even suicides and murders. Again, some reports listed the death of nonemployees engaged in rescue work and others did not. Some reports did not include deaths from accidents in sinking shafts and preliminary development work, and in no case did a report state what was considered a fatal accident, that is, within what period of time death must result for an accident to be deemed "fatal." The collation of the data from these various reports, therefore, presented many difficulties which were overcome only by a careful examination of the detailed description of each fatal accident as given in the reports and by the assistance afforded by many of the present and former State mine inspectors.

The figures for 1911 were obtained by the bureau from reports of accidents received from all the coal-mine operators in the country, and the statistics for that year were compiled from these reports after a careful comparison with the State records to which the bureau had access through the kindness of the State officials.

In 1912 monthly reports were received from the State mine inspectors covering fatalities for that year. The data from this source were supplemented by reports from the operators in those States where there is no system of coal-mine inspection.

In order that the statistics for the various States might be comparable, an effort was made to exclude deaths of nonemployees; deaths due to natural causes, such as heart failure, apoplexy, etc.; and deaths due to personal violence, such as murder and suicide. Deaths of persons engaged in rescue work were, however, included irrespective of whether such persons were employees or nonemployees, because their deaths are properly chargeable to the mining industry. Further, any mine accident that resulted in death within a year and a day after the accident occurred was considered as "fatal." As the death rates in some of the State reports are not comparable with those in others, the bureau has in all cases, except where otherwise noted, based the rates showing the number of men killed per 1,000 employed on the total number of employees, both underground and on the surface (coke workers and office employees being excluded), and on the total number of fatal accidents both underground and on the surface. In the same way the death rate per 1,000,000 tons of coal mined has been determined, the short ton of 2,000 pounds being used in all cases. The bureau feels that in presenting the tables embodied in this report it is offering the most accurate and comparable statistics of coal-mine accidents for the country as a whole that have ever been published.

Table 2 shows the production, the number of men employed, and the number of men killed in and about the coal mines of the United States in the calendar years 1896 to 1912, inclusive, and the corresponding death rates per 1,000 men employed and per 1,000,000 short tons of coal mined. The rise and fall of the death rates is also graphically shown in figure 1.

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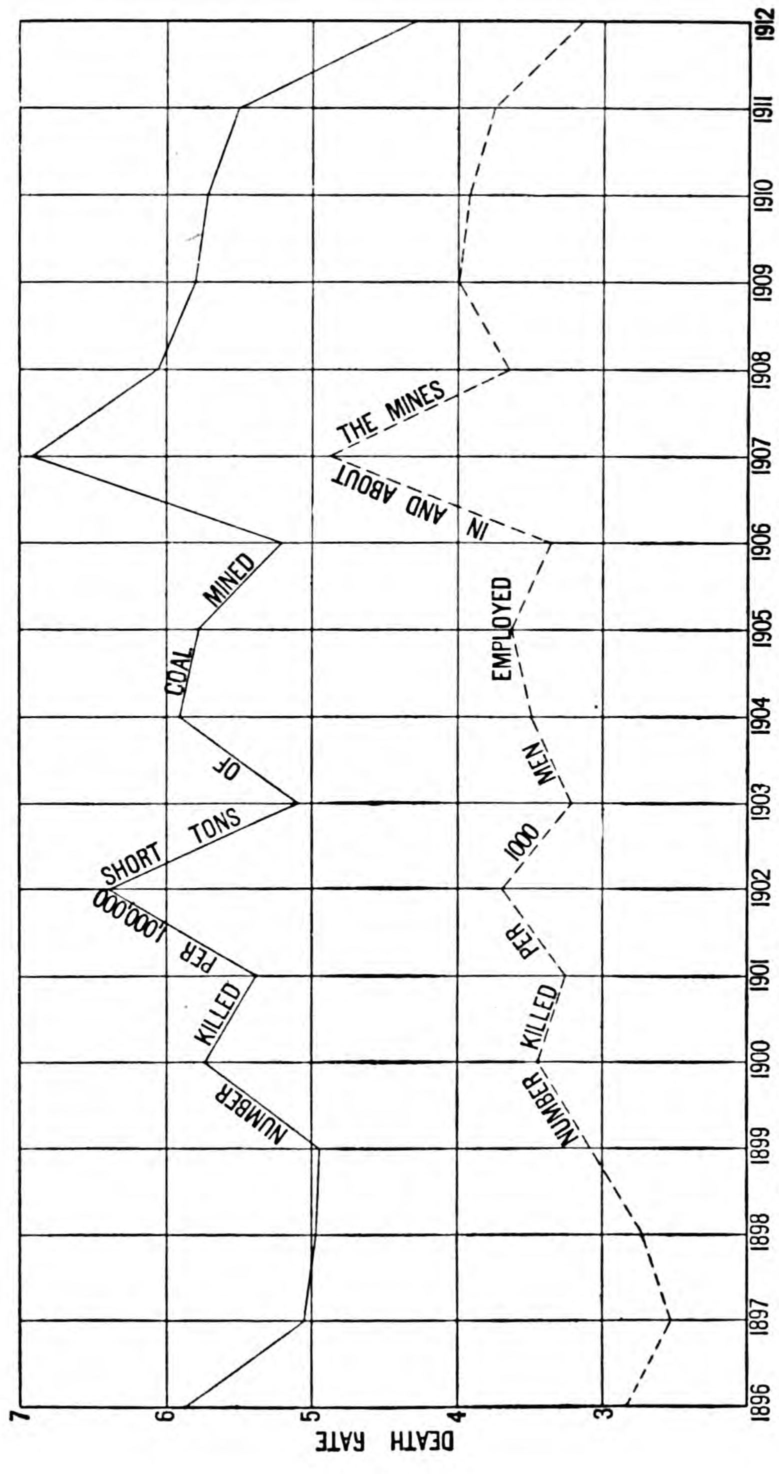

FIGURE 1.—Death rate per 1,000 men employed and per 1,000,000 short tons of coal mined for the years 1896 to 1912.

TABLE 2.—*Production, number of men employed, and number of men killed in and about the coal mines in the United States in the calendar years 1896 to 1912, inclusive.*[a]

Year.	Production (short tons).[b]	Number employed.[b]	Production (short tons).[c]	Number employed.[c]	Number killed.			Production per death (short tons).
					Total.	Per 1,000 employed.	Per 1,000,000 short tons mined.	
1896	191,986,000	393,162	185,380,000	383,258	1,089	2.84	5.87	170,000
1897	200,229,000	397,701	193,298,000	385,846	975	2.53	5.04	198,000
1898	219,976,000	401,221	213,734,000	391,841	1,064	2.72	4.98	201,000
1899	253,741,000	410,635	244,838,000	396,624	1,216	3.07	4.97	201,000
1900	269,684,000	448,581	260,164,000	432,453	1,492	3.45	5.73	174,000
1901	293,300,000	485,544	288,723,000	476,655	1,549	3.25	5.37	186,000
1902	301,590,000	518,197	296,687,000	510,437	1,895	3.71	6.39	157,000
1903	357,356,000	566,260	345,200,000	547,431	1,752	3.20	5.08	197,000
1904	351,816,000	593,693	339,165,000	573,373	2,004	3.50	5.91	169,000
1905	392,723,000	626,035	386,379,000	615,628	2,232	3.63	5.78	173,000
1906	414,157,000	640,780	407,835,000	631,086	2,116	3.35	5.19	193,000
1907	480,363,000	680,492	461,406,000	655,418	3,197	4.88	6.93	144,000
1908	415,843,000	690,438	404,933,000	672,794	2,449	3.64	6.05	165,000
1909	460,815,000	666,555	460,761,000	666,523	2,668	4.00	5.79	173,000
1910	501,596,000	725,030	501,596,000	725,030	2,840	3.92	5.66	177,000
1911	496,221,000	728,348	496,221,000	728,348	2,719	3.73	5.48	183,000
1912	550,000,000	750,000	550,000,000	750,000	2,360	3.15	4.29	233,000

[a] The figures for production and number of men employed are from "Mineral Resources of the United States," U. S. Geol. Survey, except for the number of men employed in 1911, which were compiled by the Bureau of Mines.

[b] These figures represent the total production and the total number of employees in the entire coal-mining industry of the United States. The figures for 1912 are subject to slight revision.

[c] These figures represent the production and the number of men employed in those States in which records of fatal accidents are in existence. The figures are directly comparable with the number of men killed as given in the fifth column and are those on which the mortality rates are based. It will be noted that the portion of the industry not represented in the rates from 1896 to 1909 is small and that since 1909 the entire industry is represented.

It will be noted that during the 17 years represented both the death rate per 1,000 employed and per million tons mined reached a maximum in 1907, when four exceptionally disastrous mine explosions in which 690 men were killed raised the fatalities to 3,197. From 1896 to 1907 the number of men killed per 1,000 employed gradually increased, with only slight fluctuations. The number killed per million short tons of coal mined also increased but the rate fluctuated over a greater range. It is interesting to note that during this 12-year period the increase in the death rate was accompanied by an enormous increase in the production of coal. In 1896 the output was 191,986,000 tons and in 1907 it was 480,363,000 tons, an increase of 288,377,000 tons, or over 150 per cent. In 1896 each man employed produced 2.64 tons of coal per day, whereas in 1907 the daily production of each man was 3.06 tons, an increase of 16 per cent. More coal was, therefore, being produced per man, and the increase in individual production was naturally accompanied by greater risk.

The enormous increase in production from 1896 to 1907 called for new mining methods. Electric haulage systems were installed and mining machines came into more general use. For example, in 1896 the tonnage mined by machines was 96,424,932 short tons, whereas in 1907 it was 138,547,823 short tons. With the introduction of new devices came new dangers, and measures tending to lessen danger did not keep pace with the increased risk. Public sentiment was finally so aroused by the loss of life that in May, 1908, Congress authorized the United States Geological Survey to investigate the causes of mine explosions with a view to increasing safety in mining. The work was taken up under the direction of the present Director of the Bureau of Mines, and such progress made that Congress in July, 1910, created a separate bureau to carry on this work. The investigative and educational work of the Bureau of Mines along these lines is generally known and is set forth in its numerous publications. Since 1908, the year in which the investigations were started, there has been an annual decrease in the number of men

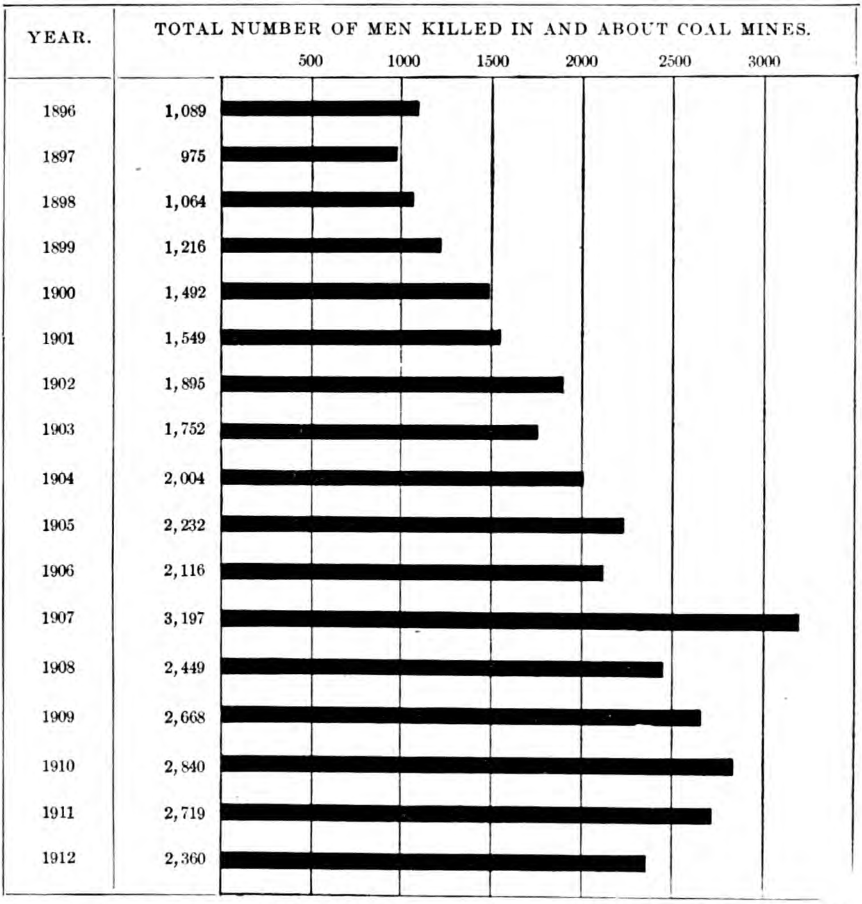

FIGURE 2.—Total number of men killed in and about coal mines in the United States during the years 1896 to 1912.

killed per million tons of coal mined, the rate in 1912 being lower than that for any previous year for which accurate records are available. Likewise in the number of men killed per 1,000 employed there has been a reduction from 4.88 in 1907 to 3.15 in 1912, the latter being the lowest death rate since 1899.

Figure 2 shows the total number of men killed in and about the coal mines of the United States since 1896. It will be noted that the number of fatalities almost steadily increased to a maximum of 3,197 in 1907. Further, it will be seen that during the years 1910 to 1912 the actual number of men killed each year has decreased, although during that time there has been a material increase in the number of men employed in and about the mines and in the production of coal, and that in 1912 fewer men were killed than in any year since 1906. The total number of men killed in the 17 years represented by the figure was 33,617, an average of 1,977 per year.

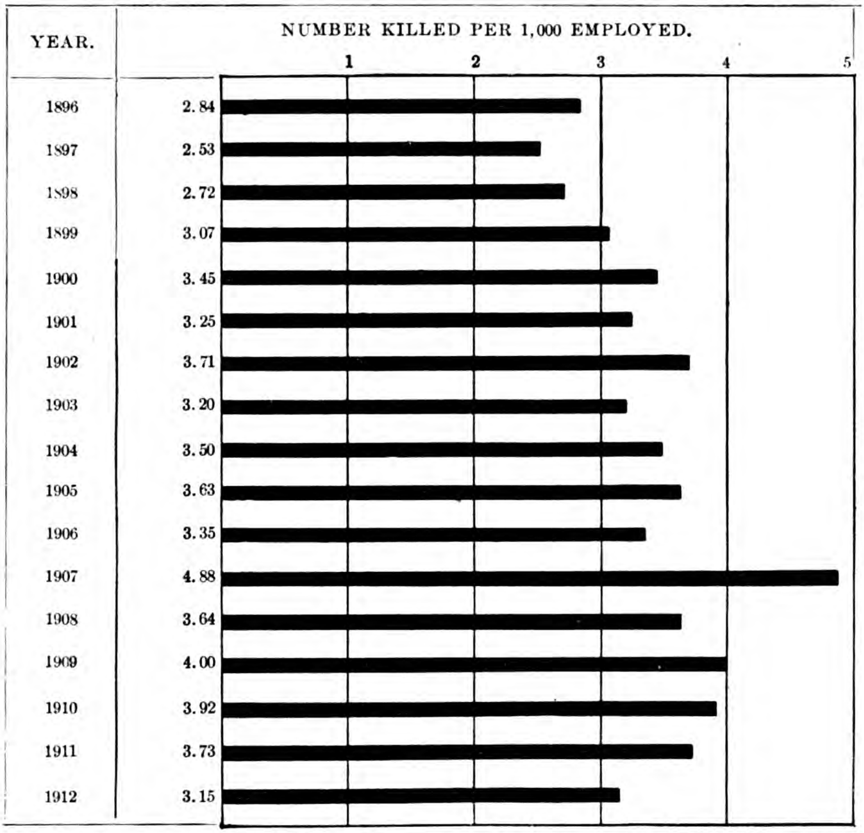

FIGURE 3.—Number of men killed per 1,000 employed in and about coal mines in the United States during the years 1896 to 1912.

The number of men killed per 1,000 employed in and about the coal mines of the United States from 1896 to 1912 is shown in Fig. 3. It will be noted that the highest death rate occurred in 1907. Since 1909 there has been an annual improvement, and the death rate for 1912 was the lowest in 13 years.

Figures 4 and 5 show the number of men killed per million short tons of coal mined in the United States since 1896 and the number of tons produced for each life lost. There has been an annual improvement in the death rate since 1907, and in 1912 the rate was considerably lower than that of any previous year for which records are available. There has, of course, been a corresponding increase in the production of coal per death, and in 1912 there were 32,000 more tons of coal mined per life lost than in any previous year, and 50,000 tons more than in 1911.

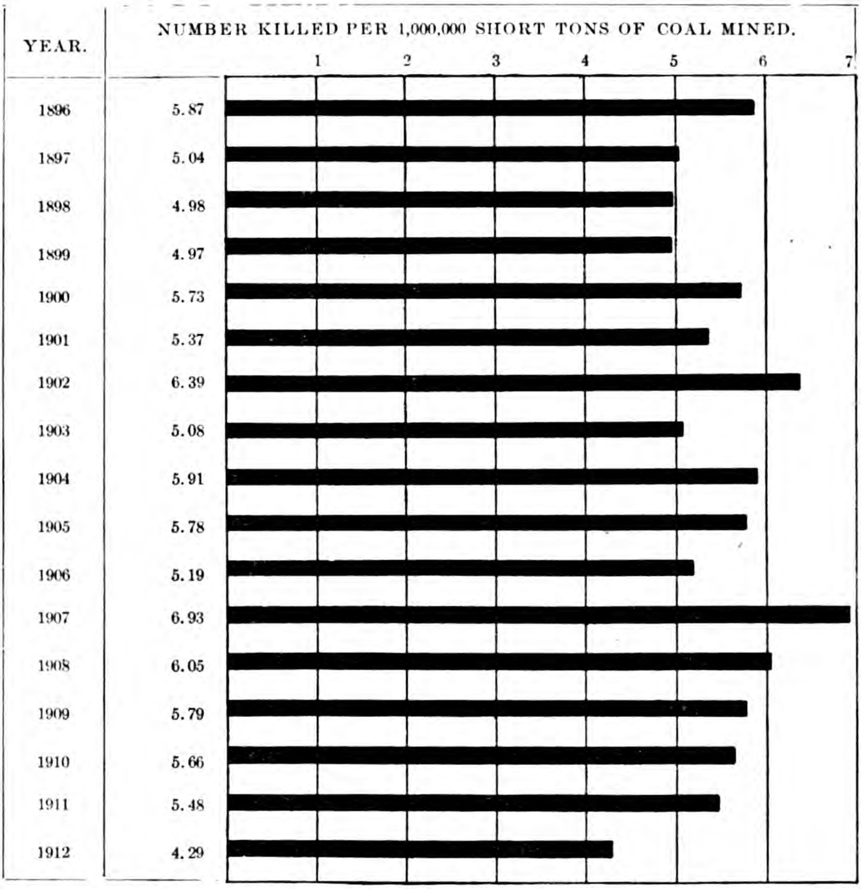

FIGURE 4.—Number of men killed per million short tons of coal mined during the years 1896 to 1912.

Detailed statistics by States showing the production, the number of men employed, the number of men killed in the coal mines, and the corresponding death rates during the 16 years 1896 to 1911 are given in tables 3 to 18. It will be noted that the data in the table for 1911 (table 18) are given in greater detail than for previous years, as, through the collection of its own statistics relative to the number of men employed, the bureau was able to determine the number of men working underground and the number employed on the surface. Consequently presentation of the death rates underground and on the surface for that year has been possible. The tables mentioned are presented below.

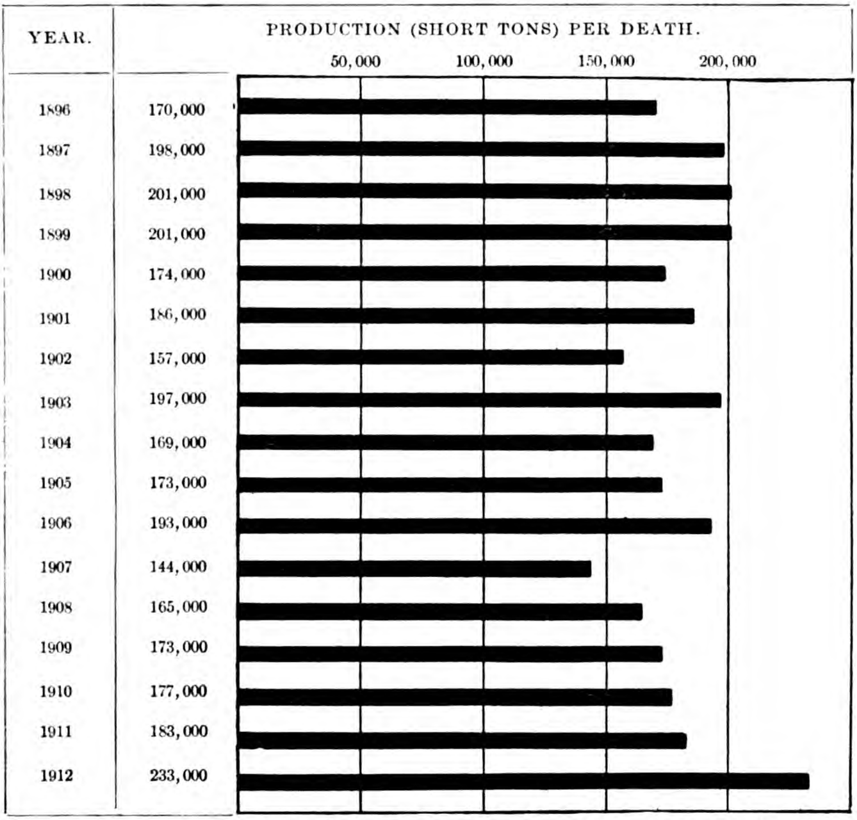

FIGURE 5.—Production of coal (short tons) per death during the years 1896 to 1912.

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TABLE 3.—*Production, number of men employed, and number of men killed in and about the coal mines in the United States in the calendar year* ***1896.***

State.	Production (short tons).[a]	Number employed.[a]	Number killed.			Production per death (short tons).
			Total.	Per 1,000 employed.	Per 1,000,000 short tons mined.	
Alabama	5,748,697	9,894	28	2.83	4.87	205,000
Arkansas	675,374	1,507	1	.66	1.48	675,000
Colorado	3,112,400	6,704	68	10.14	21.85	46,000
Illinois	19,786,626	39,560	70	1.77	3.54	283,000
Indiana	3,905,779	8,806	28	3.18	7.17	139,000
Iowa	3,954,028	9,672	18	1.86	4.55	220,000
Kansas	2,884,801	7,127	12	1.68	4.16	240,000
Kentucky	3,333,478	7,549	6	.79	1.80	556,000
Maryland	4,143,936	4,039	6	1.49	1.45	691,000
Missouri	2,331,542	5,982	8	1.34	3.43	291,000
New Mexico	622,626	1,569	7	4.46	11.24	89,000
Ohio	12,875,202	25,500	43	1.69	3.34	299,000
Oklahoma	1,366,646	3,549	15	4.23	10.98	91,000
Pennsylvania (anthracite)	54,346,081	148,991	502	3.37	9.24	108,000
Pennsylvania (bituminous)	49,557,453	72,625	180	2.48	3.63	275,000
Tennessee	2,663,106	6,531	22	3.37	8.26	121,000
Washington	1,195,504	2,622	8	3.05	6.69	149,000
West Virginia	12,876,296	19,078	67	3.51	5.20	192,000
Total	185,379,575	383,258	1,089			
Average				2.84	5.87	170,000

[a] Selected from Mineral Resources U. S., 1896-1912: U. S. Geol. Survey.

TABLE 4.—*Production, number of men employed, and number of men killed in and about the coal mines in the United States in the calendar year* ***1897.***

State.	Production (short tons).[a]	Number employed.[a]	Number killed.			Production per death (short tons).
			Total.	Per 1,000 employed.	Per 1,000,000 short tons mined.	
Alabama	5,893,770	10,597	39	3.68	6.62	151,000
Arkansas	856,190	1,990	3	1.51	3.50	285,000
Colorado	3,361,703	5,852	38	6.49	11.30	88,000
Illinois	20,072,758	33,788	74	2.19	3.69	271,000
Indiana	4,151,169	8,886	16	1.80	3.85	259,000
Iowa	4,611,865	10,703	23	2.15	4.99	201,000
Kansas	3,054,012	6,639	7	1.05	2.29	436,000
Kentucky	3,602,097	7,983	12	1.50	3.33	300,000
Maryland	4,442,128	4,719	5	1.06	1.13	888,000
Missouri	2,665,626	6,414	12	1.87	4.50	222,000
Montana	1,647,882	2,337	11	4.71	6.68	150,000
New Mexico	716,981	1,659	7	4.22	9.76	102,000
Ohio	12,196,942	26,410	39	1.48	3.20	313,000
Oklahoma	1,336,380	3,168	27	8.52	20.20	49,000
Pennsylvania (anthracite)	52,611,680	149,884	423	2.82	8.04	124,000
Pennsylvania (bituminous)	54,417,974	77,272	150	1.94	2.76	363,000
Tennessee	2,888,849	6,337	10	1.58	3.46	289,000
Utah	521,560	704	2	2.84	3.83	261,000
West Virginia	14,248,159	20,504	77	3.76	5.40	185,000
Total	193,297,725	385,846	975			
Average				2.53	5.04	198,000

[a] Selected from Mineral Resources U. S., 1897-1912: U. S. Geol. Survey.

TABLE 5.—*Production, number of men employed, and number of men killed in and about the coal mines in the United States in the calendar year* ***1898.***

State.	Production (short tons).[a]	Number employed.[a]	Number killed.			Production per death (short tons).
			Total.	Per 1,000 employed.	Per 1,000,000 short tons mined.	
Alabama	6,535,283	10,733	45	4.19	6.89	145,000
Arkansas	1,205,479	2,555	5	1.96	4.15	241,000
Colorado	4,076,347	6,440	23	3.57	5.64	177,000
Illinois	18,599,299	35,026	89	2.54	4.79	209,000
Indiana	4,920,743	8,971	21	2.34	4.27	234,000
Iowa	4,618,842	10,262	22	2.14	4.76	210,000
Kansas	3,406,555	7,197	17	2.36	4.99	200,000
Kentucky	3,887,908	7,614	6	7.88	1.54	648,000
Maryland	4,674,884	4,818	4	.83	.86	1,169,000
Missouri	2,688,321	6,542	10	1.53	3.72	269,000
Montana	1,479,803	2,359	7	2.97	4.73	211,000
New Mexico	992,288	1,873	8	4.27	8.06	124,000
Ohio	14,516,867	26,986	50	1.85	3.44	290,000
Oklahoma	1,381,466	3,216	23	7.15	16.65	60,000
Pennsylvania (anthracite)	53,382,644	145,504	411	2.82	7.70	130,000
Pennsylvania (bituminous)	65,165,133	79,611	200	2.51	3.07	326,000
Tennessee	3,022,896	6,643	19	2.86	6.29	159,000
Utah	593,709	739	3	4.06	5.05	198,000
Washington	1,884,571	3,145	11	3.50	5.84	171,000
West Virginia	16,700,999	21,607	90	4.17	5.39	186,000
Total	213,734,037	391,841	1,064			
Average				2.72	4.98	201,000

[a] Selected from Mineral Resources U. S., 1898-1912: U. S. Geol. Survey.

TABLE 6.—*Production, number of men employed, and number of men killed in and about the coal mines in the United States in the calendar year* ***1899.***

State.	Production (short tons).[a]	Number employed.[a]	Number killed.			Production per death (short tons).
			Total.	Per 1,000 employed.	Per 1,000,000 short tons mined.	
Alabama	7,593,416	13,481	40	2.97	5.27	190,000
Colorado	4,776,224	7,166	40	5.58	8.37	119,000
Illinois	24,439,019	36,756	73	1.99	2.99	335,000
Indiana	6,006,523	9,712	17	1.75	2.83	353,000
Iowa	5,177,479	10,971	25	2.28	4.83	207,000
Kansas	3,852,267	8,000	16	2.00	4.15	241,000
Kentucky	4,607,255	7,461	7	.94	1.52	658,000
Maryland	4,807,396	4,624	5	1.08	1.04	961,000
Missouri	3,025,814	7,136	11	1.54	3.64	275,000
Montana	1,496,451	2,378	1	.42	.67	1,496,000
New Mexico	1,050,714	1,750	18	10.29	17.13	58,000
Ohio	16,500,270	26,038	56	2.15	3.39	295,000
Oklahoma	1,537,427	4,084	27	6.61	17.56	57,000
Pennsylvania (anthracite)	60,418,005	139,608	461	3.30	7.63	131,000
Pennsylvania (bituminous)	74,150,175	82,812	258	3.12	3.48	287,000
Tennessee	3,330,659	6,949	20	2.88	6.00	167,000
Utah	786,049	743	0	0	0	
Washington	2,029,881	3,330	45	13.51	22.17	45,000
West Virginia	19,252,995	23,625	96	4.06	4.99	201,000
Total	244,838,019	396,624	1,216			
Average				3.07	4.97	201,000

[a] Selected from Mineral Resources U. S., 1899-1912: U. S. Geol. Survey.

TABLE 7.—*Production, number of men employed, and number of men killed in and about the coal mines in the United States in the calendar year* ***1900.***

State.	Production (short tons).[a]	Number employed.[a]	Number killed.			Production per death (short tons).
			Total.	Per 1,000 employed.	Per 1,000,000 short tons mined.	
Alabama	8,394,275	13,967	37	2.65	4.41	227,000
Colorado	5,244,364	7,459	31	4.16	5.91	169,000
Illinois	25,767,981	39,101	102	2.61	3.96	253,000
Indiana	6,484,086	11,720	19	1.62	2.93	341,000
Iowa	5,202,939	11,608	29	2.50	5.57	179,000
Kansas	4,467,870	8,459	22	2.60	4.92	203,000
Kentucky	5,328,964	9,680	17	1.76	3.19	313,000
Maryland	4,024,688	5,319	[a]7	1.32	1.74	575,000
Michigan	849,475	1,709	10	5.85	11.77	85,000
Missouri	3,540,103	8,180	19	2.32	5.37	186,000
Montana	1,661,775	2,376	7	2.95	4.21	237,000
New Mexico	1,299,299	2,037	9	4.42	6.93	144,000
Ohio	18,988,150	27,628	71	2.57	3.74	267,000
Oklahoma	1,922,298	4,525	35	7.73	18.21	55,000
Pennsylvania (anthracite)	57,367,915	144,206	411	2.85	7.16	140,000
Pennsylvania (bituminous)	79,842,326	92,692	265	2.86	3.32	301,000
Tennessee	3,509,562	7,646	10	1.31	2.85	351,000
Utah	1,147,027	1,308	209	159.79	182.21	5,000
Washington	2,474,093	3,670	32	8.72	12.93	77,000
West Virginia	22,647,207	29,163	150	5.14	6.62	151,000
Total	260,164,397	432,453	1,492			
Average				3.45	5.73	174,000

[a] Selected from Mineral Resources U. S., 1900–1912: U. S. Geol. Survey.

TABLE 8.—*Production, number of men employed, and number of men killed in and about the coal mines in the United States in the calendar year* ***1901.***

State.	Production (short tons).[a]	Number employed.[a]	Number killed.			Production per death (short tons).
			Total.	Per 1,000 employed.	Per 1,000,000 short tons mined.	
Alabama	9,099,052	17,370	41	2.36	4.51	222,000
Arkansas	1,816,136	3,144	18	5.73	9.91	101,000
Colorado	5,700,015	8,870	55	6.20	9.65	104,000
Illinois	27,331,552	41,880	106	2.53	3.88	258,000
Indiana	6,918,225	12,968	24	1.85	3.47	288,000
Iowa	5,617,499	12,653	29	2.29	5.16	194,000
Kansas	4,900,528	9,928	11	1.11	2.24	446,000
Kentucky	5,469,986	10,307	21	2.04	3.84	260,000
Maryland	5,113,127	5,333	12	2.25	2.35	426,000
Michigan	1,241,241	2,276	6	2.64	4.83	207,000
Missouri	3,802,088	9,871	16	1.62	4.21	238,000
Montana	1,396,081	2,158	7	3.24	5.01	199,000
New Mexico	1,086,546	2,478	12	4.84	11.04	91,000
Ohio	20,943,807	32,111	67	2.09	3.20	313,000
Oklahoma	2,421,781	6,706	57	8.50	23.54	42,000
Pennsylvania (anthracite)	67,471,667	145,309	513	3.53	7.60	132,000
Pennsylvania (bituminous)	82,305,946	101,904	301	2.95	3.66	273,000
Tennessee	3,633,290	9,046	44	4.86	12.11	83,000
Utah	1,322,614	1,712	8	4.67	6.05	165,000
Washington	2,578,217	4,545	27	5.94	10.47	95,000
West Virginia	24,068,402	30,935	133	4.30	5.53	181,000
Wyoming	4,485,374	5,151	41	7.96	9.14	109,000
Total	288,723,174	476,655	1,549			
Average				3.25	5.37	186,000

[a] Selected from Mineral Resources U. S., 1901–1912: U. S. Geol. Survey.

Table 9.—*Production, number of men employed, and number of men killed in and about the coal mines in the United States in the calendar year* ***1902.***

State.	Production (short tons).[a]	Number employed.[a]	Number killed.			Production per death (short tons).
			Total.	Per 1,000 employed.	Per 1,000,000 short tons mined.	
Alabama	10,354,570	16,439	50	3.04	4.83	207,000
Arkansas	1,943,932	3,595	13	3.62	6.69	150,000
Colorado	7,401,343	8,956	72	8.04	9.73	103,000
Illinois	32,939,373	47,411	107	2.26	3.25	308,000
Indiana	9,446,424	15,457	24	1.55	2.54	394,000
Iowa	5,904,766	12,434	49	3.94	8.30	121,000
Kansas	5,266,065	9,461	29	3.07	5.51	182,000
Kentucky	6,766,984	13,727	19	1.38	2.81	356,000
Maryland	5,271,609	5,827	11	1.89	2.09	479,000
Michigan	964,718	2,344	8	3.41	8.29	121,000
Missouri	3,890,154	9,742	10	1.03	2.57	389,000
Montana	1,560,823	1,938	12	6.19	7.69	130,000
New Mexico	1,048,763	1,849	14	7.57	13.35	75,000
Ohio	23,519,894	38,965	87	2.23	3.70	270,000
Oklahoma	2,820,666	5,574	42	7.53	14.89	67,000
Pennsylvania (anthracite)	41,373,595	148,141	300	2.03	7.25	138,000
Pennsylvania (bituminous)	98,574,367	112,630	456	4.05	4.63	216,000
Tennessee	4,382,968	8,750	226	25.83	51.56	19,000
Utah	1,574,521	1,826	8	4.38	5.08	197,000
Washington	2,681,214	4,404	34	7.72	12.68	79,000
West Virginia	24,570,826	35,500	134	3.77	5.45	183,000
Wyoming	4,429,491	5,250	190	36.19	42.89	23,000
Total	296,687,066	510,220	1,895			
Average				3.71	6.39	157,000

[a] Selected from Mineral Resources U. S., 1902-1912: U. S. Geol. Survey.

Table 10.—*Production, number of men employed, and number of men killed in and about the coal mines in the United States in the calendar year* ***1903.***

State.	Production (short tons).[a]	Number employed.[a]	Number killed.			Production per death (short tons).
			Total.	Per 1,000 employed.	Per 1,000,000 short tons mined.	
Alabama	11,654,324	21,438	57	2.66	4.89	204,000
Colorado	7,423,602	9,229	44	4.77	5.93	169,000
Illinois	36,957,104	50,596	158	3.12	4.28	234,000
Indiana	10,794,692	17,017	52	3.06	4.82	208,000
Iowa	6,419,811	14,162	27	1.91	4.21	238,000
Kansas	5,839,976	10,924	33	3.02	5.65	177,000
Kentucky	7,538,032	14,354	27	1.88	3.58	279,000
Maryland	4,846,165	5,859	12	2.05	2.48	404,000
Michigan	1,367,619	2,768	8	2.89	5.85	171,000
Missouri	4,238,586	9,544	17	1.78	4.01	249,000
Montana	1,488,810	2,155	5	2.32	3.36	298,000
New Mexico	1,541,781	1,789	22	12.30	14.27	70,000
Ohio	24,838,103	41,936	124	2.96	4.99	200,000
Oklahoma	3,517,388	7,704	41	5 32	11.66	86,000
Pennsylvania (anthracite)	74,607,068	150,483	518	3.44	6.94	144,000
Pennsylvania (bituminous)	103,117,178	129,265	402	3.11	3.90	257,000
Tennessee	4,798,004	9,961	26	2.61	5.42	185,000
Utah	1,681,409	1,925	7	3.64	4.16	240,000
Washington	3,193,273	4,768	25	5.24	7.83	128,000
West Virginia	29,337,241	41,554	147	3.54	5.01	200,000
Total	345,200,166	547,431	1,752			
Average				3.20	5.08	197,000

[a] Selected from Mineral Resources U. S., 1903-1912: U. S. Geol. Survey.

TABLE 11.—*Production, number of men employed, and number of men killed in and about the coal mines in the United States in the calendar year* ***1904.***

State.	Production (short tons).[a]	Number employed.[a]	Number killed.			Production per death (short tons).
			Total.	Per 1,000 employed.	Per 1,000,000 short tons mined.	
Alabama	11,262,046	17,811	83	4.66	7.37	136,000
Colorado	6,658,355	8,123	95	11.70	14.27	70,000
Illinois	36,475,060	54,685	173	3.16	4.74	211,000
Indiana	10,842,189	19,587	34	1.74	3.14	319,000
Iowa	6,519,933	15,629	25	1.60	3.83	261,000
Kansas	6,333,307	12,198	32	2.62	5.05	198,000
Kentucky	7,576,482	14,235	20	1.40	2.64	379,000
Maryland	4,813,622	5,671	10	1.76	2.08	481,000
Michigan	1,342,840	3,549	8	2.25	5.96	168,000
Missouri	4,168,308	10,137	11	1.09	2.64	379,000
Montana	1,358,919	2,505	9	3.59	6.62	151,000
New Mexico	1,452,325	1,849	8	4.33	5.51	182,000
Ohio	24,400,220	43,634	118	2.70	4.84	207,000
Oklahoma	3,046,539	8,487	29	3.42	9.52	105,000
Pennsylvania (anthracite)	73,156,709	155,861	595	3.82	8.13	123,000
Pennsylvania (bituminous)	97,938,287	135,100	536	3.97	5.47	183,000
Tennessee	4,782,211	10,416	28	2.69	5.86	171,000
Utah	1,493,027	1,374	10	7.28	6.70	149,000
Washington	3,137,681	5,287	31	5.86	9.88	101,000
West Virginia	32,406,752	47,235	149	3.15	4.60	217,000
Total	339,164,812	573,373	2,004			
Average				3.50	5.91	169,000

[a] Selected from Mineral Resources U. S., 1904–1912: U. S. Geol. Survey.

TABLE 12.—*Production, number of men employed, and number of men killed in and about the coal mines in the United States in the calendar year* ***1905.***

State.	Production (short tons).[a]	Number employed.[a]	Number killed.			Production per death (short tons).
			Total.	Per 1,000 employed.	Per 1,000,000 short tons mined.	
Alabama	11,866,069	19,595	187	9.54	15.76	63,000
Arkansas	1,934,673	4,192	8	1.91	4.14	242,000
Colorado	8,826,429	11,020	65	5.90	7.36	136,000
Illinois	38,434,363	58,053	203	3.50	5.28	189,000
Indiana	11,895,252	25,323	47	1.86	3.95	253,000
Iowa	6,798,609	15,113	37	2.45	5.44	184,000
Kansas	6,423,979	11,926	41	3.44	6.38	157,000
Kentucky	8,432,523	14,685	31	2.11	3.68	272,000
Maryland	5,108,539	5,948	15	2.52	2.94	341,000
Michigan	1,473,211	3,696	9	2.44	6.11	164,000
Missouri	3,983,378	8,962	11	1.23	2.76	362,000
Montana	1,643,832	2,181	8	3.67	4.87	205,000
New Mexico	1,649,933	2,108	7	3.32	4.24	236,000
Ohio	25,552,950	43,399	127	2.93	4.97	201,000
Oklahoma	2,924,427	7,712	41	5.32	14.02	71,000
Pennsylvania (anthracite)	77,659,850	165,406	644	3.89	8.29	121,000
Pennsylvania (bituminous)	118,413,637	143,629	479	3.33	4.05	247,000
Tennessee	5,766,690	11,928	29	2.43	5.03	199,000
Utah	1,332,372	1,361	7	5.14	5.25	190,000
Washington	2,864,926	4,765	12	2.52	4.19	239,000
West Virginia	37,791,580	48,389	212	4.38	5.61	178,000
Wyoming	5,602,021	5,977	12	2.01	2.14	467,000
Total	386,379,243	615,368	2,232			
Average				3.63	5.78	173,000

[a] Selected from Mineral Resources U. S., 1905–1912: U. S. Geol. Survey.

TABLE 13.—*Production, number of men employed, and number of men killed in and about the coal mines in the United States in the calendar year* **1906.**

State.	Production (short tons).[a]	Number employed.[a]	Number killed.			Production per death (short tons).
			Total.	Per 1,000 employed.	Per 1,000,000 short tons mined.	
Alabama	13,107,963	20,555	96	4.67	7.32	137,000
Arkansas	1,864,268	4,298	13	3.02	6.97	143,000
Colorado	10,111,218	11,368	90	7.92	8.90	112,000
Illinois	41,480,104	61,988	161	2.60	3.88	258,000
Indiana	12,092,560	20,970	31	1.48	2.56	390,000
Iowa	7,266,224	15,260	29	1.90	3.99	251,000
Kansas	6,024,775	14,355	39	2.72	6.47	154,000
Kentucky	9,653,647	15,272	39	2.55	4.04	248,000
Maryland	5,435,453	6,438	6	.93	1.10	906,000
Michigan	1,346,338	3,971	5	1.26	3.72	269,000
Missouri	3,758,008	9,557	16	1.67	4.26	235,000
Montana	1,829,921	2,394	13	5.43	7.10	141,000
New Mexico	1,964,713	2,070	14	6.76	7.13	140,000
Ohio	27,731,640	45,438	132	2.91	4.76	210,000
Oklahoma	2,860,200	8,251	44	5.33	15.38	65,000
Pennsylvania (anthracite)	71,282,411	162,355	557	3.43	7.81	128,000
Pennsylvania (bituminous)	129,293,206	152,099	477	3.14	3.69	271,000
Tennessee	6,259,275	11,452	32	2.79	5.11	196,000
Utah	1,772,551	1,572	8	5.09	4.51	222,000
Washington	3,276,184	4,529	22	4.86	6.72	149,000
West Virginia	43,290,350	50,960	277	5.44	6.40	156,000
Wyoming	6,133,994	5,934	15	2.53	2.45	409,000
Total	407,835,003	631,086	2,116			
Average				3.35	5.19	193,000

[a] Selected from Mineral Resources U. S., 1906-1912, U. S. Geol. Survey.

TABLE 14.—*Production, number of men employed, and number of men killed in and about the coal mines in the United States in the calendar year* **1907.**

State.	Production (short tons).[a]	Number employed.[a]	Number killed.			Production per death (short tons).
			Total.	Per 1,000 employed.	Per 1,000,000 short tons mined.	
Alabama	14,250,454	21,388	154	7.20	10.81	93,000
Arkansas	2,670,438	5,085	13	2.56	4.87	205,000
Colorado	10,790,236	14,223	107	7.52	9.92	101,000
Illinois	51,317,146	65,581	192	2.93	3.74	267,000
Indiana	13,985,713	21,022	53	2.52	3.79	264,000
Iowa	7,574,322	15,585	40	2.57	5.28	189,000
Kansas	7,322,449	12,439	38	3.06	5.19	193,000
Kentucky	10,753,124	16,971	32	1.89	2.98	336,000
Michigan	2,035,858	3,982	7	1.76	3.44	291,000
Missouri	3,997,936	8,448	8	.95	2.00	500,000
Montana	2,016,857	2,735	13	4.75	6.45	155,000
New Mexico	2,628,959	2,970	31	10.44	11.79	85,000
Ohio	32,142,419	46,833	154	3.29	4.79	209,000
Oklahoma	3,642,658	8,398	32	3.81	8.78	114,000
Pennsylvania (anthracite)	85,604,312	167,234	708	4.23	8.27	121,000
Pennsylvaina (bituminous)	150,143,177	163,295	806	4.94	5.37	186,000
Tennessee	6,810,243	12,052	30	2.49	4.41	227,000
Utah	1,947,607	2,203	8	3.63	4.11	243,000
Washington	3,680,532	5,945	37	6.22	10.05	99,000
West Virginia	48,091,583	59,029	734	12.43	15.26	66,000
Total	461,406,023	655,418	3,197			
Average				4.88	6.93	144,000

[a] Selected from Mineral Resources U. S., 1907-1912: U. S. Geol. Survey.

Table 15.—*Production, number of men employed, and number of men killed in and about the coal mines in the United States in the calendar year* ***1908.***

State.	Production (short tons).[a]	Number employed.[a]	Number killed.			Production per death (short tons).
			Total.	Per 1,000 employed.	Per 1,000,000 short tons mined.	
Alabama	11,604,593	19,197	108	5.63	9.31	107,000
Arkansas	2,078,357	5,337	14	2.62	6.74	148,000
Colorado	9,634,973	14,523	63	4.34	6.54	153,000
Illinois	47,659,690	68,035	172	2.53	3.61	277,000
Indiana	12,314,890	18,380	45	2.45	3.65	274,000
Iowa	7,161,310	16,021	31	1.94	4.33	231,000
Kansas	6,245,508	13,916	38	2.73	6.08	164,000
Kentucky	10,246,553	16,996	40	2.35	3.90	256,000
Michigan	1,835,019	4,247	6	1.41	3.27	306,000
Missouri	3,317,315	8,988	10	1.11	3.01	332,000
Montana	1,920,190	3,146	21	6.68	10.94	91,000
New Mexico	2,467,937	3,448	24	6.96	9.72	103,000
North Dakota	320,742	631	4	6.34	12.47	80,000
Ohio	26,270,639	47,407	115	2.43	4.38	228,000
Oklahoma	2,948,116	8,651	51	5.90	17.30	58,000
Pennsylvania (anthracite)	83,268,754	174,174	678	3.89	8.14	123,000
Pennsylvania (bituminous)	117,179,527	165,961	572	3.45	4.88	205,000
Tennessee	6,199,171	11,812	34	2.88	5.48	182,000
Utah	1,846,792	2,664	8	3.00	4.33	231,000
Washington	3,024,943	5,484	25	4.56	8.26	121,000
West Virginia	41,897,843	56,861	309	5.43	7.38	136,000
Wyoming	5,489,902	6,915	81	11.71	14.75	68,000
Total	404,932,764	672,794	2,449	....	....	....
Average	....	....	....	3.64	6.05	165,000

[a] Parker, E. W., Mineral Resources U. S., 1908–1912: U. S. Geol. Survey.

Table 16.—*Production, number of men employed, and number of men killed in and about the coal mines in the United States in the calendar year* ***1909.***

State.	Production (short tons).[a]	Number employed.[a]	Number killed.			Production per death (short tons).
			Total.	Per 1,000 employed.	Per 1,000,000 short tons mined.	
Alabama	13,703,450	17,760	129	7.26	9.41	106,000
Arkansas	2,377,157	5,266	15	2.85	6.31	158,000
Colorado	10,716,936	11,472	97	8.46	9.05	110,000
Georgia	211,196	460	2	4.35	9.47	106,000
Illinois	50,904,990	69,425	458	6.60	9.00	111,000
Indiana	14,834,259	20,937	50	2.39	3.37	297,000
Iowa	7,757,762	17,286	39	2.26	5.03	199,000
Kansas	6,986,478	12,359	32	2.59	4.58	218,000
Kentucky	10,697,384	16,903	34	2.01	3.18	315,000
Maryland	4,023,241	8,004	20	2.50	4.97	201,000
Michigan	1,784,692	3,496	9	2.57	5.04	198,000
Missouri	3,756,530	9,188	21	2.29	5.59	179,000
Montana	2,553,940	4,535	11	2.43	4.31	232,000
New Mexico	2,801,128	3,317	14	4.22	5.00	200,000
North Dakota	422,047	972	0	0	0	....
Ohio	27,939,641	38,114	112	2.94	4.01	249,000
Oklahoma	3,119,377	8,689	67	7.71	21.48	47,000
Oregon	87,276	235	1	4.26	11.46	87,000
Pennsylvania (anthracite)	81,070,359	166,801	567	3.40	6.99	143,000
Pennsylvania (bituminous)	137,966,791	159,321	506	3.18	3.67	273,000
Tennessee	6,358,645	10,031	29	2.89	4.56	219,000
Texas	1,824,440	4,196	4	.95	2.19	456,000
Utah	2,266,899	3,014	15	4.98	6.62	151,000
Virginia	4,752,217	6,191	31	5.01	6.52	153,000
Washington	3,602,263	5,992	39	6.51	10.83	92,000
West Virginia	51,849,220	55,433	336	6.06	6.48	154,000
Wyoming	6,393,109	7,123	30	4.21	4.69	213,000
Total	460,761,427	666,520	2,668	....	....	....
Average	....	....	....	4.00	5.79	173,000

[a] Parker, E. W., Mineral Resources U. S., 1909–1912: U. S. Geol. Survey.

TABLE 17.—*Production, number of men employed, and number of men killed in and about the coal mines in the United States in the calendar year* ***1910.***

State.	Production (short tons).[a]	Number employed.[a]	Number killed.			Production per death (short tons).
			Total.	Per 1,000 employed.	Per 1,000,000 short tons mined.	
Alabama	16,111,462	22,230	238	10.71	14.77	68,000
Arkansas	1,905,958	5,568	14	2.51	7.35	136,000
California and Alaska	12,164	19	0	0	0	....
Colorado	11,973,736	15,864	323	20.36	26.98	37,000
Georgia	177,245	386	0	0	0	....
Idaho	4,448	14	0	0	0	....
Illinois	45,900,246	72,645	143	1.97	3.12	321,000
Indiana	18,389,815	21,878	51	2.33	2.77	361,000
Iowa	7,928,120	16,666	33	1.98	4.16	240,000
Kansas	4,921,451	12,870	17	1.32	3.45	289,000
Kentucky	14,623,319	20,316	86	4.23	5.88	170,000
Maryland	5,217,125	5,809	17	2.93	3.26	307,000
Michigan	1,534,967	3,575	6	1.68	3.91	256,000
Missouri	2,982,433	9,691	14	1.44	4.69	213,000
Montana	2,920,970	3,837	12	3.13	4.11	243,000
New Mexico	3,508,321	3,585	16	4.46	4.56	219,000
North Dakota	399,041	534	2	3.75	5.01	200,000
Ohio	34,209,668	46,641	161	3.45	4.71	212,000
Oklahoma	2,646,226	8,657	40	4.62	15.12	66,000
Oregon	67,533	153	0	0	0	....
Pennsylvania (anthracite)	84,485,236	169,497	601	3.55	7.11	141,000
Pennsylvania (bituminous)	150,521,526	175,403	539	3.07	3.58	279,000
Tennessee	7,121,380	11,930	38	3.19	5.34	187,000
Texas	1,892,176	4,197	7	1.67	3.70	270,000
Utah	2,517,809	3,053	15	4.91	5.96	168,000
Virginia	6,507,997	7,264	57	7.85	8.76	114,000
Washington	3,911,899	6,314	43	6.81	10.99	91,000
West Virginia	61,671,019	68,663	329	4.79	5.33	187,000
Wyoming	7,533,088	7,771	38	4.89	5.04	198,000
Total	501,596,378	725,030	2,840	....	....	....
Average	....	....	....	3.92	5.66	177,000

[a] Selected from Mineral Resources U. S., 1910-1912: U. S. Geol. Survey.

TABLE 18.—*Production, number of men employed, and number of men killed in and about the coal mines in the United States in the calendar year* **1911.**

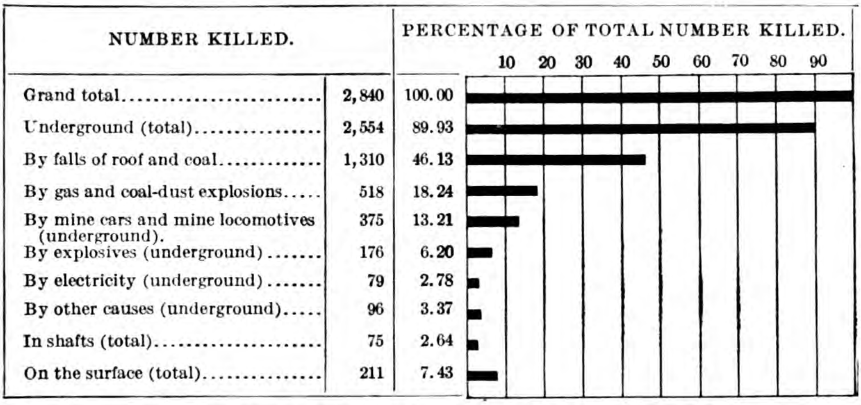
State.	Production (short tons).[a]	Number employed.			Number killed.			Number killed per 1,000 employed.			Number killed per million short tons mined.		Production per death (short tons).	
		Under-ground.	Surface.	Total.	Under-ground.	Surface.	Total.	Under-ground.	On surface.	Total.	Under-ground.	Total (under-ground and surface).	Under-ground.	Total (under-ground and surface).
Alabama	15,021,421	18,592	3,411	22,003	205	4	209	11.03	1.17	9.50	13.65	13.91	73,000	72,000
Arkansas	2,106,789	4,498	840	5,338	12	0	12	2.67	0	2.25	5.70	5.70	176,000	176,000
California and Alaska	11,647	29	31	60	0	0	0	0	0	0	0	0		
Colorado	10,157,383	12,240	2,133	14,373	86	5	91	7.03	2.34	6.33	8.47	8.96	118,000	112,000
Georgia	165,330	420	90	510	0	0	0	0	0	0	0	0		
Idaho	1,821	6	3	9	0	0	0	0	0	0	0	0		
Illinois	53,679,118	68,033	7,623	75,656	165	7	172	2.43	.92	2.27	3.07	3.20	325,000	312,000
Indiana	14,201,355	18,352	2,639	20,991	43	3	46	2.34	1.14	2.19	3.03	3.24	330,000	309,000
Iowa	7,331,648	14,787	2,065	16,852	40	0	40	2.71	0	2.37	5.46	5.46	183,000	183,000
Kansas	6,254,228	10,592	1,231	11,823	41	1	42	3.87	.81	3.55	6.56	6.72	153,000	149,000
Kentucky	13,706,839	19,592	4,532	24,124	41	4	45	2.09	.88	1.87	2.99	3.28	334,000	305,000
Maryland	4,685,795	5,256	823	6,079	14	1	15	2.66	1.22	2.47	2.99	3.20	335,000	312,000
Michigan	1,476,074	2,623	625	3,248	7	0	7	2.67	0	2.16	4.74	4.74	211,000	211,000
Missouri	3,760,607	8,650	957	9,607	7	1	8	.81	1.04	8.33	1.86	2.13	537,000	470,000
Montana	2,976,358	3,149	715	3,864	13	0	13	4.13	0	3.36	4.37	4.37	229,000	229,000
New Mexico	3,148,158	3,058	642	3,700	18	3	21	5.89	4.67	5.68	5.72	6.67	175,000	150,000
North Dakota	502,628	524	236	760	1	0	1	1.91	0	1.32	1.99	1.99	503,000	503,000
Ohio	30,759,986	40,363	5,096	45,459	108	1	109	2.68	.20	2.40	3.51	3.54	245,000	282,000
Oklahoma	3,074,242	7,419	1,310	8,729	33	0	33	4.45	0	3.78	10.74	10.74	93,000	93,000
Oregon	46,661	248	56	304	1	0	1	4.03	0	3.29	21.28	21.28	47,000	47,000
Pennsylvania (anthracite)	90,464,067	126,541	47,399	173,940	626	84	710	4.95	1.77	4.08	6.92	7.85	145,000	127,000
Pennsylvania (bituminous)	144,754,163	150,112	20,996	171,108	500	29	529	3.33	1.38	3.09	3.45	3.65	290,000	274,000
Tennessee	6,433,156	9,146	1,978	11,124	108	7	115	11.81	3.54	10.34	16.79	17.88	60,000	56,000
Texas	1,974,593	4,356	624	4,980	8	0	8	1.84	0	1.61	4.05	4.05	247,000	247,000
Utah	2,513,175	2,633	813	3,446	12	2	14	4.56	2.46	4.06	4.78	5.57	209,000	180,000
Virginia	6,864,667	6,691	1,416	8,107	60	8	68	8.97	5.64	8.39	8.74	9.91	114,000	101,000
Washington	3,572,815	5,589	1,647	7,236	24	3	27	4.29	1.82	3.73	6.72	7.56	149,000	132,000
West Virginia	59,831,580	55,498	11,302	66,800	332	18	350	5.98	1.59	5.24	5.55	5.85	180,000	171,000
Wyoming	6,744,864	6,838	1,280	8,118	31	2	33	4.53	1.56	4.07	4.50	4.89	218,000	204,000
Total	496,221,168	605,835	122,513	728,348	2,536	183	2,719							
Average								4.19	1.49	3.73	5.11	5.48	196,000	183,000

[a] Selected from Mineral Resources, U. S., 1911-1912: U. S. Geol. Survey.

Original from PRINCETON UNIVERSITY

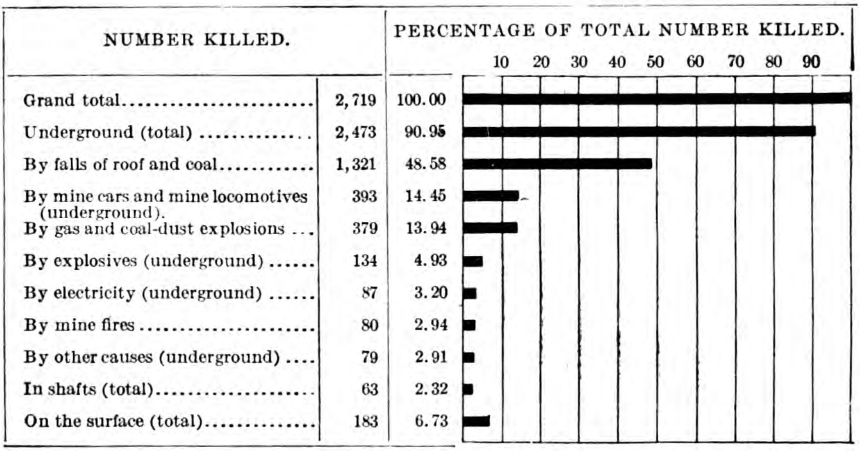
FATAL COAL-MINE ACCIDENTS DURING THE YEARS 1910 TO 1912, CLASSIFIED BY STATES AND ACCORDING TO CAUSE.

Tables 19, 20, and 21, and figures 6, 7, and 8, show the number of men killed in and about the coal mines of the United States from 1910 to 1912, inclusive, with the fatalities in each State classified according to cause. In these three years the fatalities underground constituted 89.93, 90.95, and 89.79 per cent, respectively, of the total number of men killed; fatalities in shafts 2.64, 2.32, and 2.29 per cent, and fatalities on the surface 7.43, 6.73, and 7.92 per cent.



NUMBER KILLED.		PERCENTAGE OF TOTAL NUMBER KILLED.
Grand total	2,840	100.00
Underground (total)	2,554	89.93
By falls of roof and coal	1,310	46.13
By gas and coal-dust explosions	518	18.24
By mine cars and mine locomotives (underground).	375	13.21
By explosives (underground)	176	6.20
By electricity (underground)	79	2.78
By other causes (underground)	96	3.37
In shafts (total)	75	2.64
On the surface (total)	211	7.43

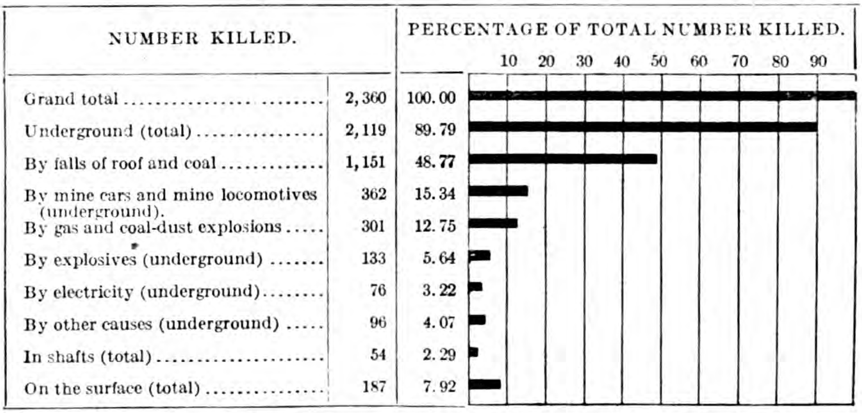
FIGURE 6.—Fatal coal-mine accidents, classified by cause, during 1910.



NUMBER KILLED.		PERCENTAGE OF TOTAL NUMBER KILLED.
Grand total	2,719	100.00
Underground (total)	2,473	90.95
By falls of roof and coal	1,321	48.58
By mine cars and mine locomotives (underground).	393	14.45
By gas and coal-dust explosions	379	13.94
By explosives (underground)	134	4.93
By electricity (underground)	87	3.20
By mine fires	80	2.94
By other causes (underground)	79	2.91
In shafts (total)	63	2.32
On the surface (total)	183	6.73

FIGURE 7.—Fatal coal-mine accidents, classified by cause, during 1911.

The corresponding percentages for deaths by falls of roof and coal were 46.13, 48.58, and 48.77 per cent; by gas and coal-dust explosions 18.24, 13.94, and 12.75 per cent; by mine cars and mine locomotives (underground) 13.21, 14.45, and 15.34 per cent. The figures show that accidents from falls of roof and coal killed more men than any other two causes combined and that they account for more than half of the deaths by accidents underground. In 1910 there were more men killed by gas and coal-dust explosions than by mine cars and locomotives, whereas in 1911 the number killed by each of these two causes was practically equal. In 1912, however, the number killed by gas and coal-dust explosions was less than the number killed by mine cars and mine locomotives. The three tables mentioned are presented below.



NUMBER KILLED.		PERCENTAGE OF TOTAL NUMBER KILLED.
Grand total	2,360	100.00
Underground (total)	2,119	89.79
By falls of roof and coal	1,151	48.77
By mine cars and mine locomotives (underground).	362	15.34
By gas and coal-dust explosions	301	12.75
By explosives (underground)	133	5.64
By electricity (underground)	76	3.22
By other causes (underground)	96	4.07
In shafts (total)	54	2.29
On the surface (total)	187	7.92

FIGURE 8.—Fatal coal-mine accidents, classified by cause, during 1912.

TABLE 19.—*Number of men killed in and about the coal mines in the United States in the calenaar year* ***1910,*** *with fatalities classified according to cause.*

State.	Killed underground.											Killed in shaft.						Killed on the surface.							
	Falls of roof (coal, rock, etc.).	Mine cars and locomotives.	Gas or dust explosions, windy or blown-out shots.	Explosives.	Suffocation from mine gases.	Electricity (shock or burns).	Animals.	Machinery other than locomotives but including mining machines.	Gases from mine fires.	Other causes.	Total killed inside of mines.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Breaking of cables, chains, etc.	Overwinding.	Other causes.	Total killed by shaft accidents.	Mine cars and mine locomotives.	Electricity (shock or burns).	Machinery.	Boiler explosions.	Railway cars and locomotives.	Other causes.	Total killed by surface accidents.	Total by States.
Alabama	55	20	139	10	0	6	0	1	0	7	238	0	0	0	0	0	0	0	0	0	0	0	0	0	238
Alaska	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arkansas	10	0	4	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14
California	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Colorado	73	18	210	5	0	0	0	0	12	0	318	2	0	0	0	0	2	1	0	0	0	0	2	3	323
Georgia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Idaho	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Illinois	74	27	8	9	0	1	4	0	0	0	123	5	2	0	0	6	13	1	0	0	0	4	2	7	143
Indiana	25	6	6	9	0	1	0	0	0	0	47	3	0	0	0	1	4	0	0	0	0	0	0	0	51
Iowa	21	4	1	2	0	0	1	0	0	0	29	3	0	0	0	0	3	1	0	0	0	0	0	1	33
Kansas	7	1	1	3	0	0	0	0	0	0	12	4	0	0	0	0	4	0	0	0	0	0	1	1	17
Kentucky	21	5	50	6	1	2	0	0	0	0	85	0	0	0	0	0	0	1	0	0	0	0	0	1	86
Maryland	10	3	0	1	0	0	0	0	0	1	15	0	0	0	0	0	0	1	0	0	0	0	1	2	17
Michigan	4	0	0	1	0	0	0	0	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Missouri	8	3	0	1	0	0	0	0	0	2	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Montana	7	3	0	0	0	0	0	0	0	0	10	0	0	2	0	0	2	0	0	0	0	0	0	0	12
New Mexico	15	0	0	1	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	16
North Dakota	1	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Ohio	103	16	17	4	0	7	0	2	0	0	149	3	0	0	0	0	3	5	0	1	0	2	1	9	161
Oklahoma	11	3	16	0	0	0	0	0	0	1	31	0	0	0	0	2	2	0	0	1	0	1	5	7	40
Oregon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pennsylvania (anthracite)	253	92	20	82	13	3	1	2	0	24	490	19	0	0	0	0	19	[a] 40	0	27	0	0	25	92	601
Pennsylvania (bituminous)	306	107	15	10	0	30	1	5	0	1	475	9	0	0	0	0	9	[a] 28	5	8	3	0	11	55	539
Tennessee	22	3	0	10	0	2	0	0	0	0	37	0	0	0	0	0	0	1	0	0	0	0	0	1	38
Texas	4	1	0	0	0	1	0	0	0	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Utah	8	2	0	1	0	0	0	1	0	0	12	0	0	0	0	0	0	3	0	0	0	0	0	3	15
Virginia	35	1	10	0	0	3	0	3	0	2	54	0	0	0	0	0	0	1	0	0	0	2	0	3	57
Washington	9	5	18	4	0	3	0	0	0	3	42	0	0	0	0	0	0	0	0	0	0	1	0	1	43
West Virginia	203	51	3	8	0	20	1	4	0	1	291	9	0	0	0	5	14	18	0	1	0	2	3	24	329
Wyoming	25	4	0	8	0	0	0	0	0	0	37	0	0	0	0	0	0	0	0	0	0	0	1	1	38
Total	1,310	375	518	176	14	79	8	18	12	44	2,554	57	2	2	0	14	75	101	5	38	3	12	52	211	2,840
Percentage of total	46.13	13.21	18.24	6.20	0.49	2.78	0.28	0.63	0.42	1.55	89.93	2.01	0.07	0.07	0	0.49	2.64	3.56	0.18	1.34	0.10	0.42	1.83	7.43	100.00

[a] Includes those killed by railway cars.

TABLE 20.—*Number of men killed in and about the coal mines in the United States in the calendar year* ***1911,*** *with fatalities classified according to cause.*

State.	Killed underground.															Killed in shaft.						Killed on the surface.							
	Falls of roof (coal, rock, etc.).	Falls of coal (other than roof coal).	Mine cars and locomotives.	Gas explosions and burning gas.	Coal-dust explosions. *a*	"Blown-out or windy shots."	Explosives (includes premature blasts, explosion of misfires, suffocation by gases from explosives, by flying pieces from blasts, etc.).	Suffocation from mine gases.	Electricity (shock or burns).	Animals.	Mining machines.	Machines other than locomotives and mining machines.	Mine fires (burned, suffocated, etc.).	Other causes.	Total killed inside of mines.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Breaking of cables, chains, etc.	Overwinding.	Other causes.	Total killed by shaft accidents.	Mine cars and mine locomotives.	Electricity (shock or burns).	Machinery.	Boiler explosions.	Railway cars and locomotives.	Other causes.	Total killed by surface accidents.	Total by States.
Alabama	46	1	14	2	128	....	5	....	6	....	....	....	....	2	204	1	....	....	....	....	1	....	....	....	....	2	2	4	209
Alaska	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Arkansas	9	....	1	....	....	....	....	....	....	....	....	....	....	1	11	....	....	....	....	1	1	....	....	....	....	....	....	0	12
California	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Colorado	41	6	12	....	17	1	1	2	2	....	1	....	....	1	84	....	....	....	....	2	2	2	....	....	....	3	....	5	91
Georgia	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Idaho	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Illinois	70	16	40	1	8	....	13	....	3	1	....	....	....	1	153	8	1	....	....	3	12	1	....	1	....	1	4	7	172
Indiana	17	2	4	1	2	1	10	....	2	....	1	....	....	....	40	3	....	....	....	....	3	1	....	....	....	1	1	3	46
Iowa	22	....	12	....	....	....	....	....	....	....	1	....	....	1	36	2	1	1	....	....	4	....	....	....	....	....	....	0	40
Kansas	20	....	....	7	....	3	3	3	1	....	....	....	....	3	40	1	....	....	....	....	1	....	....	....	1	....	....	1	42
Kentucky	26	1	3	....	1	....	3	....	4	....	1	....	....	2	41	....	....	....	....	....	0	1	....	1	....	2	....	4	45
Maryland	12	....	1	....	....	....	....	....	....	....	....	....	....	1	14	....	....	....	....	....	0	....	....	....	....	1	....	1	15
Michigan	3	1	....	....	....	....	....	....	2	....	....	....	....	1	7	....	....	....	....	....	0	....	....	....	....	....	....	0	7
Missouri	6	1	....	....	....	....	....	....	....	....	....	....	....	....	7	....	....	....	....	....	0	....	....	....	....	1	....	1	8
Montana	7	3	2	....	....	....	1	....	....	....	....	....	....	....	13	....	....	....	....	....	0	....	....	....	....	....	....	0	13
New Mexico	14	2	1	....	....	....	1	....	....	....	....	....	....	....	18	....	....	....	....	....	0	....	....	2	....	1	....	3	21
North Dakota	....	....	....	....	....	....	1	....	....	....	....	....	....	....	1	....	....	....	....	....	0	....	....	....	....	....	....	0	1
Ohio	78	12	12	....	....	....	1	....	3	....	2	....	....	....	108	....	....	....	....	....	0	....	....	....	....	1	....	1	109
Oklahoma	9	....	6	3	....	4	4	....	1	....	....	....	2	....	29	....	....	....	....	4	4	....	....	....	....	....	....	0	33

Oregon	1														1						0							0	1
Pa. (anthracite)	254	28	97	30			80	1	3	3		1	78	24	599	21	2	2	1	1	27	18	1	22	1	8	34	84	710
Pa. (bituminous)	281	36	95	22	8		3	1	35	2	3	1		9	496	2				2	4	7	1	3		6	12	29	529
Tennessee	15		6		84		1		1					1	108						0	3	1			1	2	7	115
Texas	5		1				2								8						0							0	8
Utah	7	3	2												12						0				1	1		2	14
Virginia	35		18	5					2						60						0	4					4	8	68
Washington	11		6				2	1	2						22	2					2	2		1				3	27
West Virginia	166	28	58	27	23		2		20	1	4			1	330	2					2	5	4	2		3	4	18	350
Wyoming	18	8	2	1			1							1	31						0	1		1				2	33
Total	1,173	148	393	99	271	9	134	8	87	7	13	2	80	49	2,473	42	4	3	1	13	63	45	7	33	3	32	63	183	2,719
Percentage of total	43.14	5.44	14.45	3.64	9.97	0.33	4.93	0.29	3.20	0.26	0.48	0.08	2.94	1.80	90.95	1.54	0.15	0.11	0.04	0.48	2.32	1.65	0.26	1.21	0.11	1.18	2.32	6.73	100.00

[a] These dust explosions may have been started by powder or gas explosions or other initiating causes.

TABLE 21.—*Number of men killed in and about the coal mines in the United States in the calendar year* **1912**, *with fatalities classified according to cause.*

State.	Killed underground.															Killed in shaft.						Killed on the surface.							
	Falls of roof (coal, rock, etc.).	Falls of coal (other than roof coal).	Mine cars and locomotives.	Gas explosions and burning gas.	Coal-dust explosions.	Explosions of coal dust and gas together.	Explosives (includes premature blasts, explosion of misfires, suffocation by gases from explosives, etc.).	Suffocation from mine gases.	Electricity (shock or burns).	Animals.	Mining machines.	Machines other than locomotives and mining machines.	Mine fires (burned, suffocated, etc.).	Other causes.	Total killed inside of mines.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Breaking of cables, chains, etc.	Overwinding.	Other causes.	Total killed by shaft accidents.	Mine cars and mine locomotives.	Electricity (shock or burns).	Machinery.	Boiler explosions.	Railway cars and locomotives.	Other causes.	Total killed by surface accidents.	Total by States.
Alabama	54	7	7	5	2	18	3		9					1	106	2	1			1	4	7		1		3		11	121
Alaska															0						0							0	0
Arkansas	5														5					1	1							0	6
California			2												2						0							0	2
Colorado	45	5	14	15		2	1		6	1				2	91	1				1	2	1				1		2	95
Georgia	1						1								2						0							0	2
Idaho and Nevada															0						0							0	0
Illinois	76	8	39	3			10		2	1	1			1	141	6	1	1	1	2	11					3	4	7	159
Indiana	20		7	3	6		2			1					39						0						1	1	40
Iowa	9	2	3		2		3								19						0							0	19
Kansas	10	1	2		4	5	2	1	1						26					1	1					1		1	28
Kentucky	19	1	3	5	5		1		5					2	41				1	1	2	2				1	5	8	51
Maryland	9	2	1												12						0						1	1	13
Michigan	4									1		1			6		1				1					1		1	8
Missouri	6	3	1		2				2	1				1	16					1	1	1	1	1				3	20
Montana	2	1	2				2								7						0							0	7
New Mexico	8	1	6												15						0							0	15
North Dakota															0						0							0	0
Ohio	90	6	18	1			6		2		1			1	125	1				3	4			2		1	1	4	133
Oklahoma	6	1	3	75	2		1						11		99						0							0	99

Oregon				1											1						0							0	1
Pennsylvania (anthracite)	165	72	82	36			76	8	5	2		1		29	476	12	2				14	34	3	20			37	94	584
Pennsylvania (bituminous)	200	42	105	1			7		17	1	5	2		15	395	4				2	6	17	3	5	1	1	9	36	437
Tennessee	12	2	2				1								17						0						1	1	18
Texas															0					1	1	1						1	2
Utah	2	11	1					1	1						16						0			1			1	2	18
Virginia	33		9	10			10		4		1				67	1					1	3	1			1	2	7	75
Washington	3		3			1	1		3					2	13	1					1							0	14
West Virginia	175	12	44	9		81	6		17		2				346			1		2	3	5	1			1	3	10	359
Wyoming	18	2	4		7				1						32					1	1	1						1	34
Total	972	179	362	164	30	107	133	10	76	7	10	4	11	54	2,119	28	5	2	2	17	54	68	9	30	1	14	65	187	2,360
Percentage of total	41.19	7.58	15.34	6.95	1.27	4.53	5.64	0.42	3.22	0.30	0.42	0.17	0.47	2.29	89.79	1.19	0.22	0.08	0.08	0.72	2.29	2.88	0.38	1.27	0.04	0.59	2.76	7.92	10.000

Figure 9 gives the total number of men killed by various causes in the calendar years 1910, 1911, and 1912, and shows the death rate by causes per 1,000 men employed. It indicates that the reduction in the death rate during the past three years has been most marked in the case of deaths due to gas and coal-dust explosions and those due to explosives. It is perhaps not entirely a coincidence that the greatest improvement has been effected in those conditions toward which the bureau's investigative and educational work has been chiefly directed.

NONFATAL ACCIDENTS IN THE COAL MINES IN THE UNITED STATES IN 1911.

As already stated, in 1911 the Bureau of Mines received reports of accidents from the coal-mine operators throughout the country. The tables following (Tables 22 and 23) giving the number of men seriously and slightly injured in and about the coal mines during 1911, were compiled directly from these reports. For purposes of classification a serious injury, such as a broken arm, leg, or rib, has been considered as one involving the loss of 20 or more days work, and a slight injury as one involving disablement for more than 1 day and less than 20.

CAUSE.	YEAR.	NUMBER KILLED.	NUMBER KILLED PER 1,000 EMPLOYED.
All causes (grand total)	1910	2,840	3.92
	1911	2,719	3.73
	1912	2,360	3.15
Underground accidents	1910	2,554	3.52
	1911	2,473	3.40
	1912	2,119	2.83
Falls of roof and coal	1910	1,310	1.81
	1911	1,321	1.81
	1912	1,151	1.53
Mine cars and mine locomotives (underground)	1910	375	.52
	1911	393	.54
	1912	362	.48
Gas and coal-dust explosives	1910	518	.71
	1911	379	.52
	1912	301	.40
Explosives (underground)	1910	176	.24
	1911	134	.18
	1912	133	.18
Electricity (underground)	1910	79	.11
	1911	87	.12
	1912	76	.10
Other causes (underground)	1910	96	.13
	1911	159	.22
	1912	96	.13
Shaft accidents (total)	1910	75	.11
	1911	63	.09
	1912	54	.07
Surface accidents (total)	1910	211	.29
	1911	183	.25
	1912	187	.25

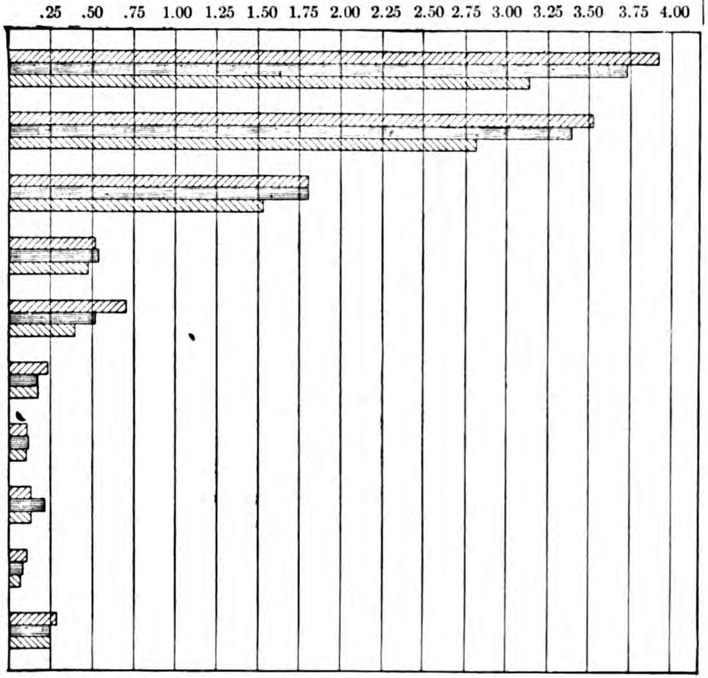


FIGURE 9.—Number of men killed and number killed per 1,000 employed in and about the coal mines in the United States in 1910, 1911, and 1912.

TABLE 22.—*Number of men **seriously injured** in and about the coal mines in the United States in the calendar year **1911**.*

State.	Injured underground.																Injured in shaft.						Injured on the surface.							
	Falls of roof (coal, rock, etc.).	Falls of coal (other than roof coal).	Mine cars and locomotives.	Gas explosions and burning gas.	Coal-dust explosions.	Explosions of coal dust and gas together.	"Blown-out or windy shots."	Explosives (includes premature blasts, explosion of misfires, suffocation by gases from explosives).	Suffocation from mine gases.	Electricity (shock or burns).	Animals.	Mining machines.	Machines other than haulage motors and mining machines.	Mine fires (burned, suffocated, etc.).	Other causes.	Total injured inside of mines.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Breaking of cables, chains, etc.	Overwinding.	Other causes.	Total injured by shaft accidents.	Mine cars and mine locomotives.	Electricity (shock or burns).	Machinery.	Boiler explosions.	Railway cars and locomotives.	Other causes.	Total injured by surface accidents.	Total by States.
Alabama	150	17	139	33	....	3	5	15	....	4	5	7	4	....	31	413	1	1	....	....	....	2	5	....	8	3	6	12	34	449
Alaska	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Arkansas	10	3	9	3	....	....	....	1	....	....	....	....	....	....	....	26	1	....	....	....	1	2	....	....	....	....	1	2	3	31
California	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Colorado	61	38	47	6	....	....	1	2	....	....	6	8	2	....	5	176	1	....	1	....	1	3	2	....	2	....	....	1	5	184
Georgia	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Idaho	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Illinois	364	172	298	21	....	....	4	16	....	8	47	39	3	3	64	1,039	5	16	....	4	10	35	5	....	10	....	10	18	43	1,117
Indiana	68	32	43	5	....	....	3	12	3	....	20	12	....	....	14	212	....	2	....	....	1	3	1	....	3	....	1	10	15	230
Iowa	86	17	52	....	....	....	....	....	....	....	5	....	....	....	4	164	2	1	....	....	1	4	....	....	7	....	2	2	11	179
Kansas	41	3	13	12	....	1	2	4	1	....	5	....	1	....	1	84	....	....	....	....	2	2	1	....	....	....	1	5	7	93
Kentucky	77	8	53	....	....	2	1	6	1	4	7	9	....	....	6	174	3	....	1	....	2	6	5	....	1	....	2	4	12	192
Maryland	48	19	40	....	....	....	....	5	....	....	1	....	....	....	24	137	....	....	....	....	....	0	6	....	2	....	....	3	11	148
Michigan	12	1	6	1	....	....	....	....	....	2	4	....	....	....	3	29	....	....	....	....	....	0	....	....	....	....	....	....	0	29
Missouri	33	5	6	2	1	....	....	....	....	....	7	1	....	....	....	55	2	....	1	....	....	3	....	....	1	....	....	2	3	61
Montana	15	8	9	....	....	....	2	2	....	....	....	....	....	....	1	37	....	....	....	....	....	0	....	....	....	....	....	4	4	41
New Mexico	14	11	18	1	....	....	....	1	....	....	1	1	1	....	1	49	....	....	....	....	....	0	3	....	....	....	1	1	5	54
North Dakota	2	....	1	....	....	....	....	2	....	....	....	....	....	....	....	5	....	....	....	....	....	0	1	2	2	....	....	....	5	10
Ohio	205	23	102	4	....	1	3	4	....	....	14	22	3	2	15	398	1	....	....	....	1	2	14	....	7	....	4	6	31	431
Oklahoma	28	5	18	16	....	....	1	5	....	....	4	1	....	....	3	81	2	2	4	....	....	8	2	....	....	....	1	1	4	93
Oregon	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	0	....	....	....	....	....	....	0	2

Pennsylvania (anthracite)	424	168	361	225	....	....	3	140	....	10	24	2	7	1	266	1,631	9	9	1	3	6	28	105	....	92	....	19	129	345	2,004
Pennsylvania (bituminous)	802	248	544	6	....	....	7	44	....	32	29	92	13	....	129	1,946	....	....	....	....	7	7	48	3	22	2	11	65	151	2,104
Tennessee	68	6	17	3	....	....	....	1	....	....	....	6	....	....	2	103	....	2	....	....	....	2	7	....	2	....	....	3	12	117
Texas	9	3	7	1	....	....	....	2	....	....	....	....	....	....	1	23	2	1	....	....	....	3	1	....	2	....	16	2	21	47
Utah	19	15	20	....	....	....	....	1	....	....	....	1	2	....	22	80	....	....	....	....	....	0	5	....	2	1	1	5	14	94
Virginia	77	5	49	8	....	....	1	10	....	1	3	1	1	....	3	159	....	....	....	....	....	0	10	1	1	....	....	4	16	175
Washington	42	15	34	10	....	....	1	3	....	....	....	....	2	....	7	114	2	....	....	....	....	2	9	....	1	....	2	....	12	128
West Virginia	338	86	244	8	....	....	8	36	2	2	20	40	6	....	36	826	....	1	....	2	2	5	40	3	16	3	13	12	87	918
Wyoming	58	6	49	....	1	....	1	5	....	....	4	3	....	....	26	153	....	....	....	....	....	0	4	....	11	1	1	5	22	175
Total	3,052	915	2,179	365	2	7	43	317	7	63	206	245	45	6	664	8,116	31	35	8	9	34	117	274	9	192	10	92	296	873	9,106
Percentage of total	33.52	10.05	23.93	4.01	0.02	0.08	0.47	3.48	0.08	0.69	2.26	2.69	0.49	0.07	7.29	89.13	0.34	0.38	0.09	0.10	0.37	1.28	3.01	0.10	2.11	0.11	1.01	3.25	9.59	100.00

TABLE 23.—*Number of men* ***slightly injured*** *in and about the coal mines in the United States in the calendar year* ***1911***.

State.	Injured underground.																Injured in shaft.						Injured on the surface.							
	Falls of roof (coal, rock, etc.).	Falls of coal (other than roof coal).	Mine cars and locomotives.	Gas explosions and burning gas.	Coal-dust explosions.	Explosions of coal dust and gas together.	"Blown-out or windy shots."	Explosives (includes premature blasts, explosion of misfires, suffocation by gases from explosives).	Suffocation from mine gases.	Electricity (shock or burns).	Animals.	Mining machines.	Machines other than haulage motors and mining machines.	Mine fires (burned, suffocated, etc.).	Other causes.	Total injured inside of mines.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Breaking of cables, chains, etc.	Overwinding.	Other causes.	Total injured by shaft accidents.	Mine cars and mine locomotives.	Electricity (shock or burns).	Machinery.	Boiler explosions.	Railway cars and locomotives.	Other causes.	Total injured by surface accidents.	Total by States.
Alabama	470	200	821	36	....	....	14	37	....	26	79	58	27	....	387	2,155	1	3	3	....	19	26	66	....	36	....	16	99	217	2,398
Alaska	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Arkansas	16	5	13	6	....	....	....	4	....	....	3	....	....	....	1	48	....	5	....	....	3	8	2	....	3	....	1	2	8	64
California	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Colorado	154	30	70	6	....	....	1	5	....	1	10	10	4	....	44	335	1	....	....	....	1	2	2	....	3	1	5	9	20	357
Georgia	4	....	6	....	....	....	....	....	....	....	....	....	....	....	....	10	....	....	....	....	....	0	4	....	....	....	....	....	4	14
Idaho	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Illinois	894	387	953	35	....	1	4	11	2	27	282	106	39	7	459	3,207	4	52	1	9	15	81	25	5	61	3	51	147	292	3,580
Indiana	180	100	273	19	....	....	1	5	5	9	90	37	10	2	82	813	1	4	2	....	7	14	2	1	23	1	13	42	82	909
Iowa	135	32	123	1	1	1	2	....	....	....	34	....	2	1	14	346	1	1	4	....	....	6	2	....	4	....	2	14	22	374
Kansas	54	13	21	20	2	1	1	3	1	1	10	....	....	....	6	133	....	3	....	....	2	5	1	2	5	1	3	10	22	160
Kentucky	182	37	238	....	....	2	3	5	4	7	58	76	10	....	117	739	....	....	....	2	3	5	31	....	6	....	5	23	65	809
Maryland	51	15	12	....	....	....	....	2	....	....	....	....	1	....	9	90	....	....	....	....	....	0	....	....	2	....	2	1	5	95
Michigan	28	7	24	....	....	....	1	1	....	....	7	3	....	....	4	75	....	....	....	....	....	0	....	....	1	....	....	2	3	78
Missouri	81	16	40	....	....	....	1	....	4	1	11	2	1	....	4	161	....	1	....	1	1	3	5	....	3	....	1	5	14	178
Montana	12	6	12	1	....	....	....	1	....	....	1	2	....	....	5	40	....	....	....	....	....	0	1	....	5	....	....	3	9	49
New Mexico	39	11	27	1	....	....	....	1	....	....	1	2	1	....	4	87	....	....	....	....	....	0	5	1	3	....	1	4	14	101
North Dakota	4	....	6	....	....	....	....	2	....	....	1	2	....	....	....	15	....	....	....	....	1	1	....	1	1	....	1	....	3	19
Ohio	270	53	220	6	....	2	3	7	1	10	17	48	4	1	39	681	3	2	3	....	1	9	32	....	6	....	15	23	76	766
Oklahoma	65	8	35	18	....	....	1	1	2	....	13	2	3	....	11	159	1	2	2	....	1	6	3	....	1	1	1	5	11	176
Oregon	1	....	3	....	....	....	....	....	....	....	....	....	....	....	....	4	....	....	....	....	....	0	1	....	....	....	....	....	1	5

Pennsylvania (anthracite)...	634	298	416	151	....	....	4	77	1	16	58	9	10	....	681	2,355	6	23	....	....	4	33	108	1	127	2	18	215	471	2,859
Pennsylvania (bituminous).	1,788	540	1,285	6	....	....	8	35	....	69	82	129	26	1	946	4,915	3	6	....	....	....	9	74	15	66	....	49	168	372	5,296
Tennessee..................	145	13	78	2	....	....	1	......	....	4	10	14	....	....	27	294	....	....	....	....	....	0	17	3	4	2	....	12	38	332
Texas......................	34	6	17	....	....	....	....	1	....	....	1	....	....	....	11	70	....	....	....	....	....	0	....	....	1	....	9	3	13	83
Utah.......................	55	57	44	....	....	....	....	1	....	....	1	....	1	....	204	363	....	....	....	....	....	0	9	....	10	....	6	27	52	415
Virginia...................	195	13	164	5	1	....	4	4	....	13	16	24	1	....	57	497	....	....	....	....	....	0	61	3	6	....	1	35	106	603
Washington.................	52	41	34	8	....	....	....	2	2	2	....	2	2	....	20	165	....	....	....	....	....	0	1	....	2	....	....	8	11	176
West Virginia..............	596	194	543	5	1	3	4	19	2	26	58	104	13	9	186	1,763	1	1	....	....	4	6	70	3	37	2	13	68	193	1,962
Wyoming....................	120	25	92	3	1	....	1	6	....	....	11	15	5	1	58	338	....	....	....	....	....	0	12	....	14	....	2	4	32	370
Total..................	6,259	2,107	5,570	329	6	10	54	230	24	212	854	645	160	22	3,376	19,858	22	103	15	12	62	214	534	35	430	13	215	929	2,156	22,228
Percentage of total....	28.16	9.48	25.06	1.48	0.03	0.05	0.25	1.03	0.11	0.95	3.84	2.90	0.71	0.10	15.19	89.34	0.10	0.46	0.07	0.05	0.28	0.96	2.40	0.16	1.93	0.06	0.97	4.18	9.70	100.00

The tables show that 9,106 serious injuries and 22,228 slight injuries were reported in 1911, as compared with 2,719 deaths. Of those seriously injured many recovered sufficiently to return to work, but others were so maimed and crippled as to be useless to themselves and burdens to their families. Disregarding the enormous economic loss due to permanent injuries, it is certain that the 9,106 men seriously injured lost at least 20 days' work each, a total loss of over 182,000 days, which at $2 per day represents a loss of $364,000.

It will be noted, as in the case of the fatalities, that the larger part (43.57 per cent) of the serious injuries was due to falls of roof and coal. The second largest cause was mine cars and mine locomotives, which accounted for 23.93 per cent of the total serious injuries.

As each of the slight injuries caused the loss of from 1 to 20 days' work, it is probably fair to assume an average loss of at least 5 days each for the 22,228 men so injured. This means a total loss of over 111,000 days' work, which, at $2 per day, represents over $222,000. Injuries caused by falls of roof and coal amounted to 37.64 per cent of the total number slightly injured and those due to mine cars and mine locomotives amounted to 25.06 per cent.

There was a remarkable agreement between the percentage of fatalities underground and the percentage of serious and slight injuries underground. For example, in 1911, 90.95 per cent of the fatalities occurred underground, as did 89.13 per cent of the serious injuries and 89.34 per cent of the slight injuries.

In summing up the economic loss due to all three classes of accidents in 1911, it may be assumed that the value of each life lost was at least $5,000. This assumption would make the 2,719 fatalities in that year represent a loss of $13,595,000, which, added to the economic loss represented by the nonfatal accidents, would total $14,142,000. This figure, of course, does not include expenses incident to the care and treatment of the persons killed or injured, nor does it embrace the enormous loss due to the damage done to the mines and the mine equipment by these accidents.

In the same way if it be assumed that each of the 33,617 lives lost in coal mines of the United States in the 17 years from 1896 to 1912 represented the loss of $5,000, the total loss occasioned by such fatal accidents was over $168,000,000.

MONTHLY STATISTICS OF COAL-MINE ACCIDENTS IN THE UNITED STATES IN 1912.

Through the kindness of the State mine inspectors and the State mining departments of the various coal-producing States, the bureau received monthly reports of fatalities in and about coal mines during 1912. Figure 10 and tables 24 to 38 were compiled from these reports, supplemented by reports received from the mine operators in those States having no system of coal-mine inspection. This is the first time that monthly statistics of coal-mine accidents in this country for an entire year have been published. The tables follow.

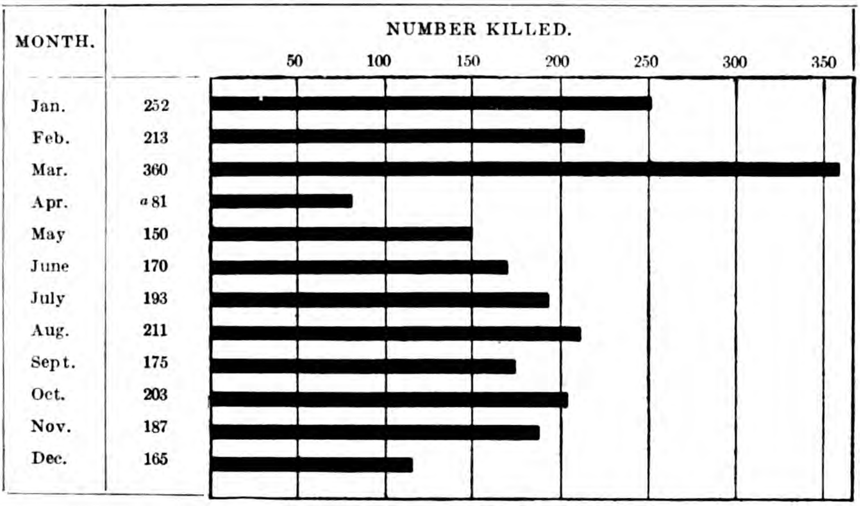


Figure 10.—Fatal coal-mine accidents during 1912, by months.

Table 24.—*Total number of men killed in and about the coal mines in the United States during the calendar year* ***1912.***

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Alabama	10	13	8	9	12	5	7	25	4	10	12	6	121
Alaska and California	0	0	0	0	0	0	0	2	0	0	0	0	2
Arkansas	0	1	0	0	0	1	0	1	1	1	0	1	6
Colorado	12	8	8	4	9	17	6	5	4	12	6	4	95
Georgia	0	0	0	0	0	0	0	1	0	0	0	1	2
Idaho and Nevada	0	0	0	0	0	0	0	0	0	0	0	0	0
Illinois	17	17	21	4	12	6	6	11	12	25	12	16	159
Indiana	3	3	4	0	1	3	4	4	3	5	5	5	40
Iowa	4	1	3	0	0	0	1	2	5	1	2	0	19
Kansas	5	5	3	0	0	3	2	0	2	3	3	2	28
Kentucky	8	6	3	5	4	4	3	4	6	7	1	0	51
Maryland	1	2	0	1	1	4	2	1	0	1	0	0	13
Michigan	1	1	1	0	0	1	0	0	0	1	3	0	8
Missouri	3	2	1	2	0	0	2	2	0	5	1	2	20
Montana	0	0	0	1	1	2	0	0	1	0	1	1	7
New Mexico	3	1	0	0	1	0	2	0	1	1	2	4	15
North Dakota	0	0	0	0	0	0	0	0	0	0	0	0	0
Ohio	13	11	11	2	11	10	7	12	13	16	13	14	133
Oklahoma	2	12	75	1	0	1	2	0	2	1	0	3	99
Oregon	1	0	0	0	0	0	0	0	0	0	0	0	1
Pennsylvania (anthracite)	66	59	65	8	20	45	63	56	50	45	59	48	584
Pennsylvania (bituminous)	43	37	42	18	36	32	36	36	50	40	35	32	437
Tennessee	4	1	0	2	0	0	4	4	0	1	1	1	18
Texas	0	0	0	0	0	2	0	0	0	0	0	0	2
Utah	1	0	2	1	4	1	2	4	0	0	2	1	18
Virginia	12	6	5	3	5	8	13	7	5	1	7	3	75
Washington	1	2	1	3	0	1	1	0	0	5	0	0	14
West Virginia	34	24	101	17	27	22	28	34	16	19	18	19	359
Wyoming	8	1	6	0	6	2	2	0	0	3	4	2	34
Total	252	213	360	[a] 81	150	170	193	211	175	203	187	165	2,360

[a] During April suspensions pending wage settlements in many of the leading coal-producing States materially reduced the number of men working in the mines, and consequently the number of fatalities.

TABLE 25.—*Number of men killed in and about the coal mines in the United States in the calendar year* ***1912****, with fatalities classified by months and according to cause.*

Month.	Killed underground.															Killed in shaft.						Killed on the surface.							
	Falls of roof (coal, rock, etc.).	Falls of coal (other than roof coal).	Mine cars and locomotives.	Gas explosions and burning gas.	Coal-dust explosions.	Explosions of coal dust and gas together.	Explosives (includes premature blasts, explosion of misfires, suffocation by gases from explosives, etc.).	Suffocation from mine gases.	Electricity (shock or burns).	Animals.	Mining machines.	Machines other than locomotives and mining machines.	Mine fires (burned, suffocated, etc.).	Other causes.	Total.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Breaking of cables, chains, etc.	Overwinding.	Other causes.	Total.	Mine cars and mine locomotives.	Electricity (shock or burns).	Machinery.	Boiler explosions.	Railway cars and locomotives.	Other causes.	Total.	Total by States.
January	107	15	44	8	17	....	22	1	7	....	....	....	....	3	224	8	....	....	....	....	8	8	....	4	....	1	7	20	252
February	90	16	37	5	4	....	13	....	6	1	2	....	11	2	187	4	1	1	....	3	9	5	....	3	....	1	8	17	213
March	89	19	27	78	....	82	22	1	4	1	....	2	....	8	333	3	....	1	....	1	5	4	2	4	1	3	8	22	360
April	39	6	3	8	1	1	5	....	4	....	....	....	....	1	68	2	....	....	....	1	3	4	....	2	....	....	4	10	81
May	80	12	26	5	....	....	8	1	3	....	2	....	....	1	138	....	....	....	1	1	2	3	....	2	....	2	3	10	150
June	81	12	23	14	....	....	6	1	6	....	1	1	....	2	147	....	2	....	....	2	4	8	....	4	....	2	5	19	170
July	84	16	22	25	....	....	14	2	9	....	....	....	....	9	181	2	....	....	....	1	3	5	1	....	....	....	3	9	193
August	83	17	40	5	....	18	11	1	11	1	2	....	....	2	191	1	....	....	....	....	1	7	1	5	....	....	6	19	211
September	81	21	27	7	1	....	9	....	8	....	....	....	....	6	160	3	....	....	....	1	4	4	2	....	....	....	5	11	175
October	86	15	39	1	4	4	8	....	12	2	1	....	....	6	178	1	2	....	1	1	5	9	2	3	....	2	4	20	203
November	78	19	41	2	3	1	5	1	4	2	1	1	....	6	164	....	....	....	....	5	5	5	1	....	....	2	10	18	187
December	74	11	33	6	....	1	10	2	2	....	1	....	....	8	148	4	....	....	....	1	5	6	....	3	....	1	2	12	165
Total	972	179	362	164	30	107	133	10	76	7	10	4	11	54	2,119	28	5	2	2	17	54	68	9	30	1	14	65	187	2,360
Percentage of total	41.19	7.58	15.34	6.95	1.27	4.53	5.64	0.42	3.22	0.30	0.42	0.17	0.47	2.29	89.79	1.19	0.22	0.08	0.08	0.72	2.29	2.88	0.38	1.27	0.04	0.59	2.76	7.92	100.00

TABLE 26.—*Number of men killed in and about the coal mines in the United States in* ***January,*** *1912, with fatalities classified according to cause.*

State.	Killed underground.												Killed in shaft.					Killed on the surface.											Total by States.
	Falls of roof (coal, rock, etc.).	Falls of coal (other than roof coal).	Mine cars and locomotives.	Gas explosions and burning gas.	Coal-dust explosions.	Explosions of coal dust and gas together.	Explosives (includes premature blasts, explosion of misfires, suffocation by gases from explosives, etc.).	Suffocation from mine gases.	Electricity (shock or burns).	Animals.	Mining machines.	Machines other than locomotives and mining machines.	Mine fires (burned, suffocated, etc.).	Other causes.	Total.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Breaking of cables, chains, etc.	Overwinding.	Other causes.	Total.	Mine cars and mine locomotives.	Electricity (shock or burns).	Machinery.	Boiler explosions.	Railway cars and locomotives.	Other causes.	Total.	
Alabama	6		2		1										9	1					1							0	10
Alaska															0						0							0	0
Arkansas															0						0							0	0
California															0						0							0	0
Colorado	5	4							1						10	1					1	1						1	12
Georgia															0						0							0	0
Idaho and Nevada															0						0							0	0
Illinois	12		2				1								15	1					1						1	1	17
Indiana	1		1				1								3						0							0	3
Iowa		2			2										4						0							0	4
Kansas	2		1					1	1						5						0							0	5
Kentucky	1	1	1		5										8						0							0	8
Maryland	1														1						0							0	1
Michigan	1														1						0							0	1
Missouri					2										2						0	1						1	3
Montana															0						0							0	0
New Mexico	2		1												3						0							0	3
North Dakota															0						0							0	0
Ohio	9		3												12						0					1		1	13
Oklahoma			1	1											2						0							0	2
Oregon				1											1						0							0	1
Pennsylvania (ant.)	20	3	11	6			11							2	53	2					2	5		2			4	11	66
Pennsylvania (bit.)	18	1	14				1		1					1	36	2					2	1		2			2	5	43
Tennessee	3	1													4						0							0	4
Texas															0						0							0	0
Utah		1													1						0							0	1
Virginia	1		2				7		2						12						0							0	12
Washington															0	1					1							0	1
West Virginia	24	2	5				1		2						34						0							0	34
Wyoming	1				7										8						0							0	8
Total	107	15	44	8	17	0	22	1	7	0	0	0	0	3	224	8	0	0	0	0	8	8	0	4	0	1	7	20	252
Percentage of total.	42.46	5.95	17.46	3.17	6.75	0.00	8.73	0.40	2.78	0.00	0.00	0.00	0.00	1.19	88.89	3.17	0.00	0.00	0.00	0.00	3.17	3.17	0.00	1.59	0.00	0.40	2.78	7.94	100.00

TABLE 27.—*Number of men killed in and about the coal mines in the United States in* ***February,*** *1912, with fatalities classified according to cause.*

State.	Killed underground.															Killed in shaft.						Killed on the surface.							Total by States.
	Falls of roof (coal, rock, etc).	Falls of coal (other than roof coal).	Mine cars and locomotives.	Gas explosions and burning gas.	Coal-dust explosions.	Explosions of coal dust and gas together.	Explosives (includes premature blasts, explosion of misfires, suffocation by gases from explosives, etc.).	Suffocation from mine gases.	Electricity (shock or burns).	Animals.	Mining machines.	Machines other than locomotives and mining machines.	Mine fires (burned, suffocated, etc.).	Other causes.	Total.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Breaking of cables, chains, etc.	Overwinding.	Other causes.	Total.	Mine cars and mine locomotives.	Electricity (shock or burns).	Machinery.	Boiler explosions.	Railway cars and locomotives.	Other causes.	Total.	
Alabama	6	1	1												8	1	1				2	1		1		1		3	13
Alaska															0						0							0	0
Arkansas	1														1						0							0	1
California															0						0							0	0
Colorado	5	1	2												8						0							0	8
Georgia															0						0							0	0
Idaho and Nevada															0						0							0	0
Illinois	10		3				2								15						0						2	2	17
Indiana	2									1					3						0							0	3
Iowa	1														1						0							0	1
Kansas	1				4										5						0							0	5
Kentucky	1		1						2						4					1	1						1	1	6
Maryland	1														1						0						1	1	2
Michigan	1														1						0							0	1
Missouri		1							1						2						0							0	2
Montana															0						0							0	0
New Mexico			1												1						0							0	1
North Dakota															0						0							0	0
Ohio	8			1							1				10					1	1							0	11
Oklahoma							1						11		12						0							0	12
Oregon															0						0							0	0

Pennsylvania (anthracite)	15	9	12	4	....	....	8	....	....	....	....	....	....	1	49	2	....	....	....	....	2	3	....	2	....	....	3	8	59
Pennsylvania (bituminous)	17	3	13	....	....	....	1	....	....	....	....	....	....	....	34	1	....	....	....	....	1	1	....	....	....	....	1	2	37
Tennessee	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	0	....	....	....	....	....	....	0	1
Texas	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Utah	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Virginia	4	....	1	....	....	....	1	....	....	....	....	....	....	....	6	....	....	....	....	....	0	....	....	....	....	....	....	0	6
Washington	....	....	1	....	....	....	....	....	....	....	....	....	....	1	2	....	....	....	....	....	0	....	....	....	....	....	....	0	2
West Virginia	16	1	1	....	....	....	....	....	3	....	1	....	....	....	22	....	....	1	....	1	2	....	....	....	....	....	....	0	24
Wyoming	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	0	....	....	....	....	....	....	0	1
Total	90	16	37	5	4	0	13	0	6	1	2	0	11	2	187	4	1	1	0	3	9	5	0	3	0	1	8	17	213
Percentage of total	42.25	7.51	17.37	2.35	1.88	0.00	6.10	0.00	2.82	0.47	0.94	0.00	5.16	0.94	87.79	1.88	0.47	0.47	0.00	1.41	4.23	2.35	0.00	1.41	0.00	0.47	3.75	7.98	100.00

TABLE 28.—*Number of men killed in and about the coal mines in the United States in* ***March,*** *1912, with fatalities classified according to cause.*

State.	Killed underground.															Killed in shaft.						Killed on the surface.							Total by States.
	Falls of roof (coal, rock, etc.).	Falls of coal (other than roof coal).	Mine cars and locomotives.	Gas explosions and burning gas.	Coal-dust explosions.	Explosions of coal dust and gas together.	Explosives (includes premature blasts, explosion of misfires, suffocation by gases from explosives, etc.).	Suffocation from mine gases.	Electricity (shock or burns).	Animals.	Mining machines.	Machines other than locomotives and mining machines.	Mine fires (burned, suffocated, etc.).	Other causes.	Total.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Breaking of cables, chains, etc.	Overwinding.	Other causes.	Total.	Mine cars and mine locomotives.	Electricity (shock or burns).	Machinery.	Boiler explosions.	Railway cars and locomotives.	Other causes.	Total.	
Alabama	3	1							1						5					1	1	1				1		2	8
Alaska															0						0							0	0
Arkansas															0						0							0	0
California															0						0							0	0
Colorado	4		2						1						7						0					1		1	8
Georgia															0						0							0	0
Idaho and Nevada															0						0							0	0
Illinois	11		3	1			1			1					17	2		1			3					1		1	21
Indiana	3		1												4						0							0	4
Iowa	2						1								3						0							0	3
Kansas		1				1	1								3						0							0	3
Kentucky	1						1								2						0						1	1	3
Maryland															0						0							0	0
Michigan	1														1						0							0	1
Missouri			1												1						0							0	1
Montana															0						0							0	0
New Mexico															0						0							0	0
North Dakota															0						0							0	0
Ohio	7	1					3								11						0							0	11
Oklahoma		1		74											75						0							0	75

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Oregon															0						0							0	0
Pennsylvania (anthracite)	13	10	6	3			13	1						7	53	1					1	1		4			6	11	65
Pennsylvania (bituminous)	18	2	11				1		2			2		1	37						0	2	2		1			5	42
Tennessee															0						0							0	0
Texas															0						0							0	0
Utah		1													1						0						1	1	2
Virginia	5														5						0							0	5
Washington	1														1						0							0	1
West Virginia	15	1	3			81	1								101						0							0	101
Wyoming	5	1													6						0							0	6
Total	89	19	27	78	0	82	22	1	4	1	0	2	0	8	333	3	0	1	0	1	5	4	2	4	1	3	8	22	360
Percentage of total	24.72	5.28	7.50	21.66	0.00	22.78	6.11	0.28	1.11	0.28	0.00	0.56	0.00	2.22	92.50	0.83	0.00	0.28	0.00	0.28	1.39	1.11	0.56	1.11	0.28	0.83	2.22	6.11	100.00

TABLE 29.—*Number of men killed in and about the coal mines in the United States in* ***April****, 1912, with fatalities classified according to cause.*

State.	Killed underground.															Killed in shaft.						Killed on the surface.							Total by States.
	Falls of roof (coal, rock, etc.).	Falls of coal (other than roof coal).	Mine cars and locomotives.	Gas explosions and burning gas.	Coal-dust explosions.	Explosions of coal dust and gas together.	Explosives (includes premature blasts, explosion of misfires, suffocation by gases from explosives, etc.).	Suffocation from mine gases.	Electricity (shock or burns).	Animals.	Mining machines.	Machines other than locomotives and mining machines.	Mine fires (burned, suffocated, etc.).	Other causes.	Total.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Breaking of cables, chains, etc.	Overwinding.	Other causes.	Total.	Mine cars and mine locomotives.	Electricity (shock or burns).	Machinery.	Boiler explosions.	Railway cars and locomotives.	Other causes.	Total.	
Alabama	5	2		1					1						9						0							0	9
Alaska															0						0							0	0
Arkansas															0						0							0	0
California															0						0							0	0
Colorado	4														4						0							0	4
Georgia															0						0							0	0
Idaho and Nevada															0						0							0	0
Illinois			1	2											3					1	1							0	4
Indiana															0						0							0	0
Iowa															0						0							0	0
Kansas															0						0							0	0
Kentucky				5											5						0							0	5
Maryland	1														1						0							0	1
Michigan															0						0							0	0
Missouri	1													1	2						0							0	2
Montana							1								1						0							0	1
New Mexico															0						0							0	0
North Dakota															0						0							0	0
Ohio	1						1								2						0							0	2
Oklahoma					1										1						0							0	1
Oregon															0						0							0	0

Pennsylvania (anthracite)	1						1								2						0	1		2			3	6	8
Pennsylvania (bituminous)	8	4	1				2								15	1					1	1					1	2	18
Tennessee	2														2						0							0	2
Texas															0						0							0	0
Utah									1						1						0							0	1
Virginia	1								1						2	1					1							0	3
Washington	1					1			1						3						0							0	3
West Virginia	14		1												15						0	2						2	17
Wyoming															0						0	0						0	0
Total	39	6	3	8	1	1	5	0	4	0	0	0	0	1	68	2	0	0	0	1	3	4	0	2	0	0	4	10	81
Percentage of total	48.15	7.41	3.71	9.88	1.23	1.23	6.17	0.00	4.94	0.00	0.00	0.00	0.00	1.23	83.95	2.47	0.00	0.00	0.00	1.23	3.70	4.94	0.00	2.47	0.00	0.00	4.94	12.35	100.00

TABLE 30.—*Number of men killed in and about the coal mines in the United States in* **May,** *1912, with fatalities classified according to cause*

State.	Killed underground.															Killed in shaft.						Killed on the surface.							Total by States.
	Falls of roof (coal, rock, etc.).	Falls of coal (other than roof coal).	Mine cars and locomotives.	Gas explosions and burning gas.	Coal-dust explosions.	Explosions of coal dust and gas together.	Explosives (includes premature blasts, explosion of misfires, suffocation by gases from explosives, etc.).	Suffocation from mine gases.	Electricity (shock or burns).	Animals.	Mining machines.	Machines other than locomotives and mining machines.	Mine fires (burned, suffocated, etc.).	Other causes.	Total.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Breaking of cables, chains, etc.	Overwinding.	Other causes.	Total.	Mine cars and mine locomotives.	Electricity (shock or burns).	Machinery.	Boiler explosions.	Railway cars and locomotives.	Other causes.	Total.	
Alabama	6		2	1			2		1						12						0							0	12
Alaska															0						0							0	0
Arkansas															0						0							0	0
California															0						0							0	0
Colorado	5		3											1	9						0							0	9
Georgia															0						0							0	0
Idaho and Nevada															0						0							0	0
Illinois	7		3				1								11						0					1		1	12
Indiana				1											1						0							0	1
Iowa															0						0							0	0
Kansas															0						0							0	0
Kentucky	3														3				1		1							0	4
Maryland			1												1						0							0	1
Michigan															0						0							0	0
Missouri															0						0							0	0
Montana							1								1						0							0	1
New Mexico	1														1						0							0	1
North Dakota															0						0							0	0
Ohio	8	1	1												10						0			1				1	11
Oklahoma															0						0							0	0
Oregon															0						0							0	0

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Pennsylvania (anthracite)	3	2	2	3	....	....	4	1	1	....	....	....	....	....	16	....	....	....	....	....	0	2	....	....	....	....	2	4	20
Pennsylvania (bituminous)	17	5	9	....	....	....	....	....	....	....	2	....	....	....	33	....	....	....	....	1	1	1	....	....	....	....	1	2	36
Tennessee	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Texas	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Utah	....	3	....	....	....	....	....	....	....	....	....	....	....	....	3	....	....	....	....	....	0	....	....	1	....	....	....	1	4
Virginia	3	....	1	....	....	....	....	....	1	....	....	....	....	....	5	....	....	....	....	....	0	....	....	....	....	....	....	0	5
Washington	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
West Virginia	22	1	3	....	....	....	....	....	....	....	....	....	....	....	26	....	....	....	....	....	0	....	....	....	....	1	....	1	27
Wyoming	5	....	1	....	....	....	....	....	....	....	....	....	....	....	6	....	....	....	....	....	0	....	....	....	....	....	....	0	6
Total	80	12	26	5	0	0	8	1	3	0	2	0	(	1	138	0	0	0	1	1	2	3	0	2	0	2	3	10	150
Percentage of total	53.33	7.99	17.33	3.33	0.00	0.00	5.33	0.67	1.99	0.00	1.34	0.00	0.00	0.67	92.0	0.00	0.00	0.00	0.67	0.67	1.34	1.99	0.00	1.34	0.00	1.34	1.99	6.66	100.00

TABLE 31.—*Number of men killed in and about the coal mines in the United States in* ***June,*** *1912, with fatalities classified according to cause.*

State.	Killed underground.															Killed in shaft.						Killed on the surface.							Total by States.
	Falls of roof (coal, rock, etc.).	Falls of coal (other than roof coal).	Mine cars and locomotives.	Gas explosions and burning gas.	Coal-dust explosions.	Explosions of coal dust and gas together.	Explosives (includes premature blasts, explosion of misfires, suffocation by gases from explosives, etc.).	Suffocation from mine gases.	Electricity (shock or burns).	Animals.	Mining machines.	Machines other than locomotives and mining machines.	Mine fires (burned, suffocated, etc.).	Other causes.	Total.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Breaking of cables, chains, etc.	Overwinding.	Other causes.	Total.	Mine cars and mine locomotives.	Electricity (shock or burns).	Machinery.	Boiler explosions.	Railway cars and locomotives.	Other causes.	Total.	
Alabama	2	1	1	....	....	....	....	....	1	....	....	....	....	....	5	....	....	....	....	....	0	....	....	....	....	....	....	0	5
Alaska	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Arkansas	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	0	....	....	....	....	....	....	0	1
California	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Colorado	3	....	1	12	....	....	....	....	1	....	....	....	....	....	17	....	....	....	....	....	0	....	....	....	....	....	....	0	17
Georgia	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Idaho and Nevada	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Illinois	5	....	1	....	....	....	....	....	....	....	....	....	....	....	6	....	....	....	....	....	0	....	....	....	....	....	....	0	6
Indiana	2	....	1	....	....	....	....	....	....	....	....	....	....	....	3	....	....	....	....	....	0	....	....	....	....	....	....	0	3
Iowa	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Kansas	3	....	....	....	....	....	....	....	....	....	....	....	....	....	3	....	....	....	....	....	0	....	....	....	....	....	....	0	3
Kentucky	3	....	....	....	....	....	....	....	....	....	....	....	....	....	3	....	....	....	....	....	0	....	....	....	....	1	....	1	4
Maryland	3	1	....	....	....	....	....	....	....	....	....	....	....	....	4	....	....	....	....	....	0	....	....	....	....	....	....	0	4
Michigan	....	....	....	....	....	....	....	....	....	....	....	1	....	....	1	....	....	....	....	....	0	....	....	....	....	....	....	0	1
Missouri	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Montana	1	....	1	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	0	....	....	....	....	....	....	0	2
New Mexico	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
North Dakota	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Ohio	9	....	1	....	....	....	....	....	....	....	....	....	....	....	10	....	....	....	....	....	0	....	....	....	....	....	....	0	10

Oklahoma	1														1						0							0	1
Oregon															0						0							0	0
Pennsylvania (anthracite)	14	3	8				5	1						2	33		2				2	3		2			5	10	45
Pennsylvania (bituminous)	15	5	5						2						27					1	1	1		2		1		4	32
Tennessee															0						0							0	0
Texas															0					1	1	1						1	2
Utah			1												1						0							0	1
Virginia	3			2							1				6						0	2						2	8
Washington									1						1						0							0	1
West Virginia	14	2	3				1		1						21						0	1						1	22
Wyoming	2														2						0							0	2
Total	81	12	23	14	0	0	6	1	6	0	1	1	0	2	147	0	2	0	0	2	4	8	0	4	0	2	5	19	170
Percentage of total	47.64	7.06	13.53	8.23	0.00	0.00	3.53	0.59	3.53	0.00	0.59	0.59	0.00	1.18	86.47	0.00	1.18	0.00	0.00	1.18	2.36	4.70	0.00	2.35	0.00	1.18	2.94	11.17	100.00

TABLE 32.—*Number of men killed* **in** *and about the coal mines in the United States in* ***July****, 1912, with fatalities classified according to cause.*

State.	Killed underground.															Killed in shaft.						Killed on the surface.							Total by States.
	Falls of roof (coal, rock, etc.).	Falls of coal (other than roof coal).	Mine cars and locomotives.	Gas explosions and burning gas.	Coal-dust explosions.	Explosions of coal dust and gas together.	Explosives (includes premature blasts, explosion of misfires, suffocation by gases from explosives, etc.).	Suffocation from mine gases.	Electricity (shock or burns).	Animals.	Mining machines.	Machines other than locomotives and mining machines.	Mine fires (burned, suffocated, etc.).	Other causes.	Total.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Breaking of cables, chains, etc.	Overwinding.	Other causes.	Total.	Mine cars and mine locomotives.	Electricity (shock or burns).	Machinery.	Boiler explosions.	Railway cars and locomotives.	Other causes.	Total.	
Alabama	6			1											7						0							0	7
Alaska															0						0							0	0
Arkansas															0						0							0	0
California															0						0							0	0
Colorado	4								2						6						0							0	6
Georgia															0						0							0	0
Idaho and Nevada															0						0							0	0
Illinois	3	1	1											1	6						0							0	6
Indiana	2		2												4						0							0	4
Iowa	1														1						0							0	1
Kansas	1														1					1	1							0	2
Kentucky	1								1						2						0						1	1	3
Maryland	1	1													2						0							0	2
Michigan															0						0							0	0
Missouri		2													2						0							0	2
Montana															0						0							0	0
New Mexico	2														2						0							0	2
North Dakota															0						0							0	0
Ohio	6	1													7						0							0	7
Oklahoma	2														2						0							0	2
Oregon															0						0							0	0

Pennsylvania (anthracite)	16	6	7	8			13	2						4	56	2					2	4					1	5	63
Pennsylvania (bituminous)	17	4	6						3					4	34						0	1	1					2	36
Tennessee	3		1												4						0							0	4
Texas															0						0							0	0
Utah	2														2						0							0	2
Virginia	5			8											13						0							0	13
Washington			1												1						0							0	1
West Virginia	11		4	8			1		3						27						0						1	1	28
Wyoming	1	1													2						0							0	2
Total	84	16	22	25	0	0	14	2	9	0	0	0	0	9	181	2	0	0	0	1	3	5	1	0	0	0	3	9	193
Percentage of total	43.52	8.29	11.40	12.95	0.00	0.00	7.26	1.04	4.66	0.00	0.00	0.00	0.00	4.66	93.78	1.04	0.00	0.00	0.00	0.52	1.56	2.58	0.52	0.00	0.00	0.00	1.56	4.66	100.00

TABLE 33.—*Number of men killed in and about the coal mines in the United States in* ***August****, 1912, with fatalities classified according to cause.*

State.	Killed underground.															Killed in shaft.						Killed on the surface.							Total by States.
	Falls of roof (coal, rock, etc.).	Falls of coal (other than roof coal).	Mine cars and locomotives.	Gas explosions and burning gas.	Coal-dust explosions.	**Explosions of coal dust and gas together.**	Explosives (includes premature blasts, explosion of misfires, suffocation by gases from explosives, etc.).	Suffocation from mine gases.	Electricity (shock or burns).	Animals.	Mining machines.	Machines other than locomotives and mining machines.	Mine fires (burned, suffocated, etc.).	Other causes.	Total.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Breaking of cables, chains, etc.	Overwinding.	Other causes.	Total.	Mine cars and mine locomotives.	Electricity (shock or burns).	Machinery.	Boiler explosions.	Railway cars and locomotives.	Other causes.	Total.	
Alabama	4		1			18			2						25						0							0	25
Alaska															0						0							0	0
Arkansas	1														1						0							0	1
California			2												2						0							0	2
Colorado	1		1	2			1								5						0							0	5
Georgia	1														1						0							0	1
Idaho and Nevada															0						0							0	0
Illinois	5	2	3				1								11						0							0	11
Indiana	2		1												3						0						1	1	4
Iowa			1				1								2						0							0	2
Kansas															0						0							0	0
Kentucky	2		1												3						0	1						1	4
Maryland	1														1						0							0	1
Michigan															0						0							0	0
Missouri	2														2						0							0	2
Montana															0						0							0	0
New Mexico															0						0							0	0
North Dakota															0						0							0	0
Ohio	8	1	1											1	11						0			1				1	12
Oklahoma															0						0							0	0
Oregon															0						0							0	0

Pennsylvania (anthracite)	17	6	11	3			6		2					1	46	1					1	2		4			3	9	56
Pennsylvania (bituminous)	17	3	8						3	1	2				34						0	2						2	36
Tennessee	2						1								3						0						1	1	4
Texas															0						0							0	0
Utah		3						1							4						0							0	4
Virginia	4		1												5						0	1	1					2	7
Washington															0						0							0	0
West Virginia	16	2	9				1		4						32						0	1					1	2	34
Wyoming															0						0							0	0
Total	83	17	40	5	0	18	11	1	11	1	2	0	0	2	191	1	0	0	0	0	1	7	1	5	0	0	6	19	211
Percentage of total	39.34	8.06	18.96	2.37	0.00	8.53	5.21	0.47	5.21	0.47	0.95	0.00	0.00	0.95	90.52	0.47	0.00	0.00	0.00	0.00	0.47	3.32	0.47	2.37	0.00	0.00	2.85	9.01	100.00

TABLE 34.—*Number of men killed in and about the coal mines in the United States in* **September,** *1912, with fatalities classified according to cause.*

State.	Killed underground.															Killed in shaft.						Killed on the surface.							Total by States.
	Falls of roof (coal, rock, etc.).	Falls of coal (other than roof coal).	Mine cars and locomotives.	Gas explosions and burning gas.	Coal-dust explosions.	Explosion of coal dust and gas together.	Explosives (includes premature blasts, explosion of misfires, suffocation by gases from explosives, etc.).	Suffocation from mine gases.	Electricity (shock or burns).	Animals.	Mining machines.	Machines other than locomotives and mining machines.	Mine fires (burned, suffocated, etc.).	Other causes.	Total.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Breaking of cables, chains, etc.	Overwinding.	Other causes.	Total.	Mine cars and mine locomotives.	Electricity (shock or burns).	Machinery.	Boiler explosions.	Railway cars and locomotives.	Other causes.	Total.	
Alabama	2	1		1											4						0							0	4
Alaska															0						0							0	0
Arkansas															0					1	1							0	1
California															0						0							0	0
Colorado	3		1												4						0							0	4
Georgia															0						0							0	0
Idaho and Nevada															0						0							0	0
Illinois	2	1	5				2								10	1					1						1	1	12
Indiana	3														3						0							0	3
Iowa	3		1				1								5						0							0	5
Kansas	1						1								2						0							0	2
Kentucky	2								1					1	4						0						2	2	6
Maryland															0						0							0	0
Michigan															0						0							0	0
Missouri															0						0							0	0
Montana		1													1						0							0	1
New Mexico	1														1						0							0	1
North Dakota															0						0							0	0
Ohio	9	1	2						1						13						0							0	13
Oklahoma	1				1										2						0							0	2
Oregon															0						0							0	0

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Pennsylvania (anthracite)	15	13	3	5			3							4	43	2					2	4	1					5	50
Pennsylvania (bituminous)	28	3	12	1			1		4					1	50						0							0	50
Tennessee															0						0							0	0
Texas															0						0							0	0
Utah															0						0							0	0
Virginia	2						1								3						0						2	2	5
Washington															0						0							0	0
West Virginia	9	1	3						2						15						0		1					1	16
Wyoming															0						0							0	0
Total	81	21	27	7	1	0	9	0	8	0	0	0	0	6	160	3	0	0	0	1	4	4	2	0	0	0	5	11	175
Percentage of total	46.29	12.00	15.43	4.00	0.57	0.00	5.14	0.00	4.57	0.00	0.00	0.00	0.00	3.43	91.43	1.71	0.00	0.00	0.00	0.57	2.28	2.28	1.15	0.00	0.00	0.00	2.86	6.29	100.00

TABLE 35.—*Number of men killed in and about the coal mines in the United States in* **October,** *1912, with fatalities classified according to cause.*

State.	Killed underground.															Killed in shaft.						Killed on the surface.							Total by States.
	Falls of roof (coal, rock, etc.).	Falls of coal (other than roof coal).	Mine cars and locomotives.	Gas explosions and burning gas.	Coal-dust explosions.	Explosions of coal dust and gas together.	Explosives (includes premature blasts, explosion of misfires, suffocation by gases from explosives, etc.).	Suffocation from mine gases.	Electricity (shock or burns).	Animals.	Mining machines.	Machines other than locomotives and mining machines.	Mine fires (burned, suffocated, etc.).	Other causes.	Total.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Breaking of cables, chains, etc.	Overwinding.	Other causes.	Total.	Mine cars and mine locomotives.	Electricity (shock or burns).	Machinery.	Boiler explosions.	Railway cars and locomotives.	Other causes.	Total.	
Alabama	3		1	1	1				3						9						0					1		1	10
Alaska															0						0							0	0
Arkansas	1														1						0							0	1
California															0						0							0	0
Colorado	8		2			2									12						0							0	12
Georgia															0						0							0	0
Idaho and Nevada															0						0							0	0
Illinois	8	2	7				2		1		1				21		1		1	1	3					1		1	25
Indiana	2				3										5						0							0	5
Iowa	1														1						0							0	1
Kansas	1					2									3						0							0	3
Kentucky	4								1					1	6						0	1						1	7
Maryland	1														1						0							0	1
Michigan															0		1				1							0	1
Missouri	1								1	1					3						0		1	1				2	5
Montana															0						0							0	0
New Mexico	1														1						0							0	1
North Dakota															0						0							0	0
Ohio	9		6												15	1					1							0	16
Oklahoma	1														1						0							0	1
Oregon															0						0							0	0

Pennsylvania (anthracite)	15	9	8	....	....	....	3	....	1	1	....	....	....	1	38	....	....	....	....	....	0	3	1	1	....	....	2	7	45
Pennsylvania (bituminous)	14	4	11	....	....	....	1	....	1	....	....	....	....	3	34	....	....	....	....	....	0	4	....	1	....	....	1	6	40
Tennessee	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	0	....	....	....	....	....	....	0	1
Texas	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Utah	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Virginia	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	0	....	....	....	....	....	....	0	1
Washington	1	....	1	....	....	....	1	....	1	....	....	....	....	1	5	....	....	....	....	....	0	....	....	....	....	....	....	0	5
West Virginia	12	....	3	....	....	....	1	....	2	....	....	....	....	....	18	....	....	....	....	....	0	....	....	....	....	....	1	1	19
Wyoming	1	....	....	....	....	....	....	....	1	....	....	....	....	....	2	....	....	....	....	....	0	1	....	....	....	....	....	1	3
Total	86	15	39	1	4	4	8	0	12	2	1	0	0	6	178	1	2	0	1	1	5	9	2	3	0	2	4	20	203
Percentage of total	42.36	7.39	19.21	0.49	1.97	1.97	3.94	0.00	5.91	0.99	0.49	0.00	0.00	2.96	87.68	0.49	0.99	0.00	0.49	0.49	2.46	4.44	0.99	1.47	0.00	0.99	1.97	9.86	100.00

TABLE 36.—*Number of men killed in and about the coal mines in the United States in* **November,** *1912, with fatalities classified according to cause.*

State.	Killed underground.															Killed in shaft.						Killed on the surface.							Total by States.
	Falls of roof (coal, rock, etc.).	Falls of coal (other than roof coal).	Mine cars and locomotives.	Gas explosions and burning gas.	Coal-dust explosions.	Explosions of coal dust and gas together.	Explosives (includes premature blasts, explosion of misfires, suffocation by gases from explosives, etc.).	Suffocation from mine gases.	Electricity (shock or burns).	Animals.	Mining machines.	Machines other than locomotives and mining machines.	Mine fires (burned, suffocated, etc.).	Other causes.	Total.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Breaking of cables, chains, etc.	Overwinding.	Other causes.	Total.	Mine cars and mine locomotives.	Electricity (shock or burns).	Machinery.	Boiler explosions.	Railway cars and locomotives.	Other causes.	Total.	
Alabama	10		1											1	12						0							0	12
Alaska															0						0							0	0
Arkansas															0						0							0	0
California															0						0							0	0
Colorado	2			1					1	1					5					1	1							0	6
Georgia															0						0							0	0
Idaho and Nevada															0						0							0	0
Illinois	6	1	5												12						0							0	12
Indiana	1		1		3										5						0							0	5
Iowa	1		1												2						0							0	2
Kansas	1					1									2						0					1		1	3
Kentucky	1														1						0							0	1
Maryland															0						0							0	0
Michigan	1								1						2						0					1		1	3
Missouri															0					1	1							0	1
Montana			1												1						0							0	1
New Mexico		1	1												2						0							0	2
North Dakota															0						0							0	0
Ohio	7	1	1						1						10					2	2						1	1	13
Oklahoma															0						0							0	0
Oregon															0						0							0	0

Pennsylvania (anthracite)	18	8	11				4	1		1		1		3	47						0	4	1				7	12	59
Pennsylvania (bituminous)	15	4	9						1		1			2	32						0	1					2	3	35
Tennessee		1													1						0							0	1
Texas															0						0							0	0
Utah		2													2						0							0	2
Virginia	4		2				1								7						0							0	7
Washington															0						0							0	0
West Virginia	10	1	6	1											18						0							0	18
Wyoming	1		2												3					1	1							0	4
Total	78	19	41	2	3	1	5	1	4	2	1	1	0	6	164	0	0	0	0	5	5	5	1	0	0	2	10	18	187
Percentage of total	41.72	10.16	21.93	1.07	1.61	0.53	2.67	0.53	2.14	1.07	0.53	0.53	0.00	3.21	87.70	0.00	0.00	0.00	0.00	2.67	2.67	2.67	0.53	0.00	0.00	1.07	5.36	9.63	100.00

TABLE 37.—*Number of men killed in and about the coal mines in the United States in* **December**, *1912, with fatalities classified according to cause.*

State.	Killed underground.															Killed in shaft.						Killed on the surface.							Total by States.
	Falls of roof (coal, rock, etc.).	Falls of coal (other than roof coal).	Mine cars and locomotives.	Gas explosions and burning gas.	Coal-dust explosions.	Explosions of coal dust and gas together.	Explosives (includes premature blasts, explosion of misfires, suffocation by gases from explosives, etc.).	Suffocation from mine gases.	Electricity (shock or burns).	Animals.	Mining machines.	Machines other than locomotives and mining machines.	Mine fires (burned, suffocated, etc.).	Other causes.	Total.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Breaking of cables, chains, etc.	Overwinding.	Other causes.	Total.	Mine cars and mine locomotives.	Electricity (shock or burns).	Machinery.	Boiler explosions.	Railway cars and locomotives.	Other causes.	Total.	
Alabama	1	1	2	....	....	....	1	....	....	....	....	....	....	....	5	....	....	....	....	....	0	1	....	....	....	....	....	1	6
Alaska	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Arkansas	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	0	....	....	....	....	....	....	0	1
California	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Colorado	1	....	2	....	....	....	....	....	....	....	....	....	....	1	4	....	....	....	....	....	0	....	....	....	....	....	....	0	4
Georgia	....	....	....	....	....	....	1	....	....	....	....	....	....	....	1	....	....	....	....	....	0	....	....	....	....	....	....	0	1
Idaho and Nevada	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Illinois	7	1	5	....	....	....	....	....	1	....	....	....	....	....	14	2	....	....	....	....	2	....	....	....	....	....	....	0	16
Indiana	2	....	....	2	....	....	1	....	....	....	....	....	....	....	5	....	....	....	....	....	0	....	....	....	....	....	....	0	5
Iowa	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Kansas	....	....	1	....	....	1	....	....	....	....	....	....	....	....	2	....	....	....	....	....	0	....	....	....	....	....	....	0	2
Kentucky	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Maryland	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Michigan	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Missouri	2	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	0	....	....	....	....	....	....	0	2
Montana	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	0	....	....	....	....	....	....	0	1
New Mexico	1	....	3	....	....	....	....	....	....	....	....	....	....	....	4	....	....	....	....	....	0	....	....	....	....	....	....	0	4
North Dakota	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0
Ohio	9	....	3	....	....	....	2	....	....	....	....	....	....	....	14	....	....	....	....	....	0	....	....	....	....	....	....	0	14
Oklahoma	1	....	2	....	....	....	....	....	....	....	....	....	....	....	3	....	....	....	....	....	0	....	....	....	....	....	....	0	3
Oregon	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0	....	....	....	....	....	0	....	....	....	....	....	....	0	0

Original from PRINCETON UNIVERSITY

Pennsylvania (anthracite)	18	3	3	4			5	2	1					4	40	2					2	2		3			1	6	48
Pennsylvania (bituminous)	16	4	6											3	29						0	2					1	3	32
Tennessee	1														1						0							0	1
Texas															0						0							0	0
Utah		1													1						0							0	1
Virginia			2												2						0					1		1	3
Washington															0						0							0	0
West Virginia	12	1	3								1				17					1	1	1						1	19
Wyoming	1		1												2						0							0	2
Total	74	11	33	6	0	1	10	2	2	0	1	0	0	8	148	4	0	0	0	1	5	6	0	3	0	1	2	12	165
Percentage of total	44.85	6.66	20.00	3.64	0.00	0.61	6.06	1.21	1.21	0.00	0.61	0.00	0.00	4.85	89.70	2.42	0.00	0.00	0.00	0.61	3.03	3.64	0.00	1.82	0.00	0.61	1.21	7.28	100.00

TABLE 38.—*Number of men killed in and about the coal mines in* ***Alabama, Iowa, Tennessee, West Virginia,*** *and* ***Wyoming*** *during each month of 1912, with fatalities classified according to districts.*

ALABAMA.

[Charles H. Nesbitt, chief mine inspector.]

District.	Inspector.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
First	W. W. Kicker	4	4	1	1	4	0	0	0	0	0	(a)	(a)	14
Second	David Kelso	2	2	2	1	1	3	3	1	1	2	4	2	24
Third	J. F. Webb	0	4	1	3	3	0	1	4	0	2	3	2	23
Fourth	W. R. Ray	2	1	2	3	3	1	1	19	1	2	0	2	37
Fifth	Frank Hillman	0	2	1	1	1	0	2	1	1	2	3	0	14
Sixth	Thomas Roscoe	2	0	1	0	0	1	0	0	1	2	2	0	9
Total		10	13	8	9	12	5	7	25	4	10	12	6	121

IOWA.

First	J. E. Jeffreys	2	0	1	0	0	0	0	2	0	0	0	0	5
Second	R. T. Rhys	2	0	2	0	0	0	1	0	4	0	1	0	10
Third	Edward Sweeney	0	1	0	0	0	0	0	0	1	1	1	0	4
Total		4	1	3	0	0	0	1	2	5	1	2	0	19

TENNESSEE.

[George E. Sylvester, chief mine inspector.]

Eastern	Joseph Richards	1	0	0	1	0	0	2	3	0	1	1	1	10
Middle	John Rose	3	1	0	1	0	0	2	1	0	0	0	0	8
Total		4	1	0	2	0	0	4	4	0	1	1	1	18

WEST VIRGINIA.

[John Laing, chief of department of mines.]

First	Karl F. Schoew	2	1	0	2	0	0	2	4	0	2	2	3	18
Second	Frank E. Parsons	0	0	0	2	3	1	1	2	1	0	2	1	13
Third	L. D. Vaughn	1	2	0	0	2	2	0	0	0	1	1	1	10
Fourth	W. B. Plaster	2	3	2	0	0	0	0	2	0	0	0	1	10
Fifth	Earl A. Henry	3	2	3	0	2	2	11	3	1	0	0	1	28
Sixth [b]	J. H. Jackson	2	2	0	0	4	1	1	1	0	1	2	2	16
Seventh	James Martin	1	1	2	1	1	1	0	3	0	1	0	0	11
Eighth	R. Y. Muir	8	1	2	1	1	1	2	4	3	3	1	2	29
Ninth	L. B. Holliday	5	1	3	2	4	4	0	4	1	4	1	0	29
Tenth	Arthur Mitchell	6	2	2	4	6	3	4	2	5	2	0	1	37
Eleventh	William Nicholson	1	2	83	5	2	6	1	3	4	2	7	4	120
Twelfth [c]	H. H. Pinkney	3	7	4	0	2	1	6	6	1	3	2	3	38
Total		34	24	101	17	27	22	28	34	16	19	18	19	359

WYOMING.

First	George Blacker	8	1	5	0	6	2	2	0	0	2	2	1	29
Second	W. E. Jones	0	0	1	0	0	0	0	0	0	1	2	1	5
Total		8	1	6	0	6	2	2	0	0	3	4	2	34

[a] First district temporarily abolished.

[b] B. H. Hill for first six months.

[c] P. A. Grady for first six months.

THE MORE DISASTROUS COAL-MINE ACCIDENTS IN THE UNITED STATES.

Table 39 lists in chronological order the more disastrous fatal accidents in the coal mines of the United States since the beginning of the coal-mining industry in this country. Effort has been made to make the list as complete as possible from a careful examination of available records. Only those accidents are included that caused the death of five or more persons.

Acknowledgment is made of aid received in the compilation of the table from S. Sanford, engineer, and W. W. Adams of the Bureau of Mines. The table follows.

TABLE 39.—*Coal-mine accidents in the United States in which five or more men were killed.*

Date.		Name of mine.	Location of mine.	Nature of accident.	Killed.
1839	Mar. 18	Black Heath	Near Richmond, Va	Mine explosion	40
1854	....	Chesterfield	do	do	19
1855	....	Midlothian	do	do	55
1869	Sept. 6	Avondale	Plymouth, Pa	Mine fire	179
1870	Mar. 22	Potts	Potts Mine, Pa	Explosion of breaker boilers.	5
1870	Aug. 10	Heins & Glassmire	Middleport, Pa	Cage fell down shaft	9
1870	Aug. 29	Preston No. 3	Girardville, Pa	Fell down slope	7
1871	May 27	West Pittston	West Pittston, Pa	Smoke from burning breaker.	20
1871	Oct. 2	Otto Red Ash	Branch Dale, Pa	Mine explosion	5
1873	June 10	Henry Clay	Shamokin, Pa	do	10
1876	May 20	Midlothian	Coalfield, Va	do	8
1876	July 24	Black Diamond	Nortonville, Cal	do	6
1877	May 9	Wadesville	Wadesville, Pa	do	7
1878	Jan. 15	Potts	Locust Dale, Pa	do	5
1878	Nov. 21	Sullivan	Sullivan, Ind	do	8
1879	May 6	Audenried	Audenried, Pa	Mine fire	6
1879	Nov. 2	Mill Creek	Mill Creek, Pa	Mine explosion	5
1880	May 3	Lykens Valley	Shamokin, Pa	do	5
1881	Feb. 10	Robbins	Robbins, Ohio	do	6
1881	Mar. 4	Almy	Almy, Wyo	do	38
1882	Feb. 3	Midlothian	Coalfield, Va	do	32
1882	May 24	Kohinoor	Shenandoah, Pa	do	5
1883	Jan. 9	Coulterville	Coulterville, Ill	do	10
1883	Feb. 16	Diamond	Braidwood, Ill	Inrush of surface water into workings.	69
1884	Jan. 24	Crested Butte	Crested Butte, Colo	Mine explosion	59
1884	Feb. 20	West Leisenring	West Leisenring, Pa	do	19
1884	Mar. 13	Laurel	Pocahontas, Va	do	112
1884	Aug. 21	Buck Ridge	Shamokin, Pa	Mine fire	7
1884	Oct. 27	Youngstown	Uniontown, Pa	Mine explosion	14
1885	Apr. 6	Cuyler	Raven Run, Pa	Fall of roof	10
1885	Aug. 11	West End	Mocanaqua, Pa	Gas from boiler fires in mine.	10
1885	Oct. 21	Plymouth No. 2	Plymouth, Pa	Mine explosion	6
1885	Dec. 18	Nanticoke No. 1	Nanticoke, Pa	Buried by inrush of quicksand.	26
1886	Jan. 13	Almy No. 4	Almy, Wyo	Mine explosion	13
1886	Jan. 21	Newburg	Newburg, W. Va	do	39
1886	Aug. 30	Fair Lawn	Scranton, Pa	do	6
1886	Sept. 13	Marvine	do	Suffocated by inrush of mine gas.	8
1886	Nov. 26	Conyngham	Wilkes-Barre, Pa	Mine explosion	12
1887	Apr. 27	Tunnel	Ashland, Pa	Suffocated by inrush of mine gas.	5
1887	Oct. 1	Bast	Big Mine Run, Pa	do	5
1888	Mar. 29	Keith & Perry No. 6	Rich Hill, Mo	Mine explosion	26
1888	Nov. 3	Kettle Creek	Clinton County, Pa	Powder and coal dust explosion.	17
1888	Nov. 9	Shaft No. 2	Frontenac, Kans	Mine explosion	40
1889	May 9	Kaska William	Middleport, Pa	Mine car fell on men in cage.	10
1889	Sept. 9	White Ash	Jefferson County, Colo	Inrush of water from old shaft.	10

TABLE 39.—*Coal-mine accidents in the United States in which five or more men were killed*—Continued.

Date.		Name of mine.	Location of mine.	Nature of accident.	Killed.
1890	Feb. 1	Nottingham	Plymouth, Pa	Mine explosion	8
1890	Mar. 3	Shaft No. 3	South Wilkes-Barre, Pa.	do	8
1890	Apr. 2	Susquehannah No. 4	Nanticoke, Pa	do	5
1890	May 15	Jersey No. 8	Ashley, Pa	do	26
1890	June 16	Hill Farm	Dunbar, Pa	Mine fire	31
1891	Jan. 27	Mammouth	Mount Pleasant, Pa	Mine explosion	109
1891	Feb. 4	Spring Mountain No. 1	Jeanesville, Pa	Drowned by inrush of water from abandoned workings and asphyxiated by gas from fire built by imprisoned men.	13
1891	Oct. 23	Richardson	Glencarbon, Pa	Imprisoned by rush of coal and suffocated by mine gas.	7
1891	Nov. 8	Susquehanna No. 1	Nanticoke, Pa	Mine explosion	12
1892	Jan. 7	No. 11	Krebs, Okla	do	100
1892	Apr. 20	Lytle	Minersville, Pa	Drowned by water from old workings.	10
1892	May 10	Roslyn	Roslyn, Wash	Mine explosion	45
1892	July 23	York Farm	Pottsville, Pa	do	15
1893	Jan. 10	Como	King, Colo	do	24
1893	Feb. 14	Chicago and Iowa	Albia, Iowa	do	8
1893	Apr. 1	Neilson	Shamokin, Pa	Mine fire	10
1893	June 22	Susquehanna No. 1	Nanticoke, Pa	Mine explosion	5
1893	Sept. 21	Lance No. 11	Plymouth, Pa	do	6
1894	Feb. 13	Gaylord	do	Fall of roof	13
1894	July 17	East Sugar Loaf	Stockton, Pa	Dynamite explosion	8
1894	Aug. 24	Franklin	Franklin, Wash	Mine fire	37
1894	Oct. 8	Luke Fidler	Shamokin, Pa	do	5
1894	Oct. 11	Henry Clay	do	Boiler explosion	6
1894	Nov. 20	Blanche	Standard, W. Va	Powder and coal-dust explosion.	8
1895	Jan. 22	Tate	Sturgis, Ky	Powder or mine explosion	5
1895	Feb. 18	West Bear Ridge	Mahanoy Plane, Pa	Mine explosion	5
1895	Feb. 27	White Ash	Cerrillos, N. Mex	do	24
1895	Mar. 20	Red Canyon	Red Canyon, Wyo	do	60
1895	Apr. 8	Blue Canyon	Lake Whatcom, Wash	do	23
1895	Oct. 7	Dorrance	Wilkes-Barre, Pa	do	7
1895	Dec. 19	Cumnock	Cumnock, N. C	do	39
1895	Dec. 20	Nelson	Dayton, Tenn	do	25
1896	Feb. 18	Vulcan	New Castle, Colo	do	49
1896	Mar. 23	Berwind	Dubois, Pa	do	13
1896	June 28	Twin	Pittston, Pa	Fall of roof	58
1896	Oct. 29	Shaft No. 3	South Wilkes-Barre, Pa	Mine explosion	6
1896	Dec. 26	Oswalt	Princeton, Ind	do	7
1897	Jan. 4	No. 1	Alderson, Okla	do	5
1897	Jan. 13	Wadesville	Wadesville, Pa	Crosshead fell down shaft	5
1897	Sept. 3	Sunshine	Sunshine, Colo	Mine explosion	12
1897	Sept. 28	Jermyn No. 1	Rendham, Pa	Mine fire	5
1897	Oct. 30	Von Storch	Scranton, Pa	do	6
1898	May 26	Kaska William	Middleport, Pa	Drowned by water from old workings.	6
1898	Sept. 23	Umpire	Brownsville, Pa	Mine explosion	8
1898	Oct. 1	Midvale	Wilkes-Barre, Pa	Mine fire	5
1898	Nov. 5	Exeter	West Pittston, Pa	Mine car fell on men in cage.	9
1899	Apr. 21	Cook & White	Madrid, N. Mex	Mine explosion	5
1899	May 23	Cumnock	Cumnock, N. C	do	23
1899	July 24	Grindstone	Grindstone, Pa	do	5
1899	Dec. 9	Carbon Hill No. 7	Carbonado, Wash	do	31
1899	Dec. 23	Sumner	Sumner, Pa	do	19
1900	Mar. 6	Red Ash	Red Ash, W. Va	do	46
1900	May 1	Winter Quarters 1 and 4	Scofield, Utah	Powder and mine explosion.	200
1900	Aug. 21	Issaquah No. 4	Issaquah, Wash	Smoke from burning air shaft.	5
1900	Nov. 2	Berryburg	Berryburg, W. Va	Powder smoke explosion	15
1900	Nov. 9	Buck Mountain	Mahanoy, Pa	Mine explosion	7
1901	Feb. 25	Diamondville No. 1	Diamondville, Wyo	Mine fire	28
1901	Apr. 29	McAlester No. 5	Alderson, Okla	Blown-out or windy shot	6
1901	May 15	Chatham	Farmington, W. Va	Mine explosion	10
1901	May 27	Richland	Dayton, Tenn	do	20
1901	June 10	Port Royal No. 2	Port Royal, Pa	do	19
1901	Sept. 16	Spring Gulch	Spring Gulch, Colo	do	6
1901	Oct. 25	Buttonwood	Plymouth, Pa	do	6
1901	Oct. 26	Diamondville	Diamondville, Wyo		22
1901	Nov. 14	Pocahontas	Pocahontas, Va	Mine fire and explosion	9
1901	Nov. 22	do	do	Mine fire	8

Table 39.—*Coal-mine accidents in the United States in which five or more men were killed*—Continued.

Date.		Name of mine.	Location of mine.	Nature of accident.	Killed.
1901	Dec. 28	No. 1	Hartshorne, Okla	Fell from cage	6
1902	Jan. 13	Milby & Dow	Dow, Okla	Mine fire	10
1902	Jan. 24	Lost Creek No. 2	Oskaloosa, Iowa	Mine explosion	20
1902	Mar. 6	Catsburg	Monongahela, Pa	....do	5
1902	Mar. 31	Nelson	Dayton, Tenn	....do	16
1902	May 19	Fraterville	Coal Creek, Tenn	....do	184
1902	July 10	Rolling Mill	Johnstown, Pa	....do	112
1902	Aug. 7	Bowen	Bowen, Colo	Powder and mine explosion.	13
1902	Sept. 15	Algoma No. 7	Algoma, W. Va	Mine explosion	17
1902	Sept. 22	Stafford	Stafford, W. Va	....do	6
1902	Oct. 1	Lawson	Lawson, Wash	....do	11
1902	Nov. 29	Luke Fidler	Shamokin, Pa	....do	7
1902	Dec. 9	South Wilkes-Barre	South Wilkes-Barre, Pa.	Dynamite explosion	5
1903	Mar. 15	Cardiff	Cardiff, Ill	Mine explosion	5
1903	Mar. 23	Athens No. 2	Athens, Ill	Windy shot	6
1903	Mar. 31	Sandoval	Sandoval, Ill	Blown-out shot	8
1903	Apr. 12	Central Slope 77	Carbon, Okla	Mine explosion	6
1903	June 19	Blossburg No. 3	Blossburg, N. Mex	....do	5
1903	June 30	Hanna No. 1	Hanna, Wyo	Mine explosion and fire	169
1903	Nov. 21	Ferguson	Connellsville, Pa	Mine explosion	17
1904	Jan. 25	Harwick	Cheswick, Pa	....do	179
1904	Jan. 30	Maple Hill	Mahanoy City, Pa	Dynamite explosion	5
1904	Apr. 20	Stearns No. 5	Stearns, Ky	Mine explosion	5
1904	May 5	Lance	Plymouth, Pa	Dynamite explosion	5
1904	...do..	Locust Gap	Locust Gap, Pa	Mine fire	5
1904	May 11	Big Muddy	Herrin, Ill	Powder explosion	10
1904	May 25	Williamstown	Williamstown, Pa	Suffocated by gases from locomotive.	10
1904	Oct. 28	Tercio	Tercio, Colo	Mine explosion	19
1904	Nov. 2	Auchincloss	Nanticoke, Pa	Fell down shaft	10
1904	Dec. 7	No. 5	Burnett, Wash	Mine explosion	17
1905	Jan. 16	Decatur	Decatur, Ill	Mine fire	6
1905	Feb. 18	Lytle	Pottsville, Pa	Fall of roof	5
1905	Feb. 20	Virginia City	Virginia City, Ala	Mine explosion	108
1905	Feb. 26	Grapevine	Wilcoe, W. Va	Powder and mine explosion.	6
1905	Mar. 9	Clear Spring	West Pittston, Pa	Fell down shaft	7
1905	Mar. 18 Mar. 19	Rush Run and Red Ash.	Red Ash, W. Va	Mine explosion	24
1905	Mar. 22	Oswald	Princeton, Ind	Powder and mine explosion.	9
1905	Apr. 3	Leiter	Zeigler, Ill	Mine explosion	49
1905	Apr. 20	Cabin Creek	Kayford, W. Va	Powder explosion	6
1905	Apr. 26	Conyngham	Wilkes-Barre, Pa	Fell down shaft	10
1905	Apr. 27	Eleanora	Dubois, Pa	Mine explosion	13
1905	Apr. 30	No. 19	Wilburton, Okla	....do	13
1905	July 6	Fuller	Searight, Pa	....do	6
1905	Oct. 13	Clyde	Fredericktown, Pa	Mine fire	6
1905	Oct. 29	Hazel Kirk No. 2	Monongahela, Pa	Mine explosion	5
1905	Nov. 4	Tidewater	Vivian, W. Va	Powder and mine explosion.	7
1905	Nov. 15	Braznell	Bentleysville, Pa	Mine explosion	7
1905	Dec. 1	Diamondville, No. 1	Diamondville, Wyo	....do	18
1905	Dec. 4	Horton	Horton, W. Va	Mine fire	7
1906	Jan. 4	Coaldale	Coaldale, W. Va	Mine explosion	22
1906	Jan. 18	Detroit	Detroit, W. Va	....do	18
1906	Jan. 24	Poteau, No. 6	Witteville, Okla	Dynamite explosion	14
1906	Feb. 8	Parral	Parral, W. Va	Mine explosion	23
1906	Feb. 19	Maitland	Walsenburg, Colo	....do	14
1906	Feb. 27	Little Cahaba	Piper, Ala	....do	12
1906	Mar. 22	Century, No. 1	Century, W. Va	Powder and mine explosion.	23
1906	Apr. 22	Cuatro	Tercio, Colo	Mine explosion	19
1906	May 15	Shenandoah City	Shenandoah, Pa	Dynamite explosion	7
1906	June 7	Red Lodge	Red Lodge, Mont	Mine fire	8
1906	Aug. 6	Susquehanna, No. 7	Nanticoke, Pa	Mine explosion	6
1906	Oct. 3	Pocahontas	Pocahontas, Va	....do	35
1906	Oct. 5	Dutchman	Blossburg, N. Mex	....do	10
1906	Oct. 24	Rolling Mill	Johnstown, Pa	....do	7
1906	Nov. 3	San Toy, No. 1	Corning, Ohio	Fell down shaft	5
1906	Dec. 20	Fidelity, No. 1	Stone City, Kans	Powder explosion	7
1906	Dec. 22	Breese-Trenton	Breese, Ill	Cage with men fell down shaft.	6
1907	Jan. 14	Deering, No. 7	Clinton, Ind	Powder explosion	7
1907	Jan. 23	Primero	Primero, Colo	Mine explosion	24
1907	Jan. 26	Lorentz	Penco, W. Va	Powder explosion	12
1907	Jan. 29	Johnston City	Johnston City, Ill	....do	7
1907	...do...	Stuart	Stuart, W. Va	Mine explosion	84

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TABLE 39.—*Coal-mine accidents in the United States in which five or more men were killed*—Continued.

Date.		Name of mine.	Location of mine.	Nature of accident.	Killed.
1907	Feb. 4	Thomas, No. 25	Thomas, W. Va	Mine explosion	25
1907	Mar. 2	Holden	Taylor, Pa	do	7
1907	Mar. 16	Bond and Bruce	Tacoma, Va	do	11
1907	Apr. 26	Morgon	Black Diamond, Wash	do	7
1907	May 1	Whipple	Scarboro, W. Va	do	16
1907	May 19	Engleville	Engleville, Colo	Mine fire	5
1907	June 18	Johnson No. 1	Priceburg, Pa	Mine explosion	7
1907	Aug. 17	Sonman	Sonman, Pa	Fell down shaft	5
1907	Dec. 1	Naomi	Fayette City, Pa	Mine explosion	34
1907	Dec. 6	Monongah Nos. 6 and 8	Monongah, W. Va	do	361
1907	Dec. 16	Yolande	Yolande, Ala	do	56
1907	Dec. 19	Darr	Jacobs Creek, Pa	do	239
1907	Dec. 31	Bernal	Carthage, N. Mex	do	11
1908	Jan. 30	Backman	Hawks Nest, W. Va	do	9
1908	Feb. 10	Moody	South Carrollton, Ky	Blown-out shot	9
1908	Mar. 28	Hanna No. 1	Hanna, Wyo	Mine explosion	59
1908	May 12	Mount Lookout	Wyoming, Pa	do	12
1908	May 13	Prospect	Midvale, Pa	Fall of roof	5
1908	July 15	Williamstown	Williamstown, Pa	Powder explosion	6
1908	Aug. 26	Hailey-Ola No. 1	Haileyville, Okla	Mine fire	29
1908	Aug. 28	Warrior Run	Wilkes-Barre, Pa	Mine cars	6
1908	Nov. 20	Red Lodge	Red Lodge, Mont	Mine fire	9
1908	Nov. 28	Rachel and Agnes	Marianna, Pa	Mine explosion	154
1908	Dec. 29	Lick Branch	Switchback, W. Va	do	50
1909	Jan. 10	Zeigler	Zeigler, Ill	Mine fire and explosion	26
1909	Jan. 12	Lick Branch	Switchback, W. Va	Mine explosion	67
1909	Jan. 19	Stone Canyon	Chancellor, Cal	do	6
1909	Jan. 25	Washington No. 5	Franklin, Md	Mine cars	5
1909	do	Orenda No. 2	Boswell, Pa	Mine explosion	5
1909	Feb. 2	Short Creek	Short Creek, Ala	do	16
1909	Mar. 2	No. 14	Pittston, Pa	do	8
1909	Mar. 20	Sunnyside	Evansville, Ind	do	6
1909	Mar. 31	Echo	Buery, W. Va	Dynamite explosion	6
1909	Apr. 9	Eureka No. 37	Windber, Pa	Dynamite and mine explosion.	7
1909	June 23	Lackawanna No. 4	Wehrum, Pa	Mine explosion	21
1909	July 6	Toller	Tollerville, Colo	do	9
1909	Oct. 3	Northwestern	Roslyn, Wyo	do	10
1909	Oct. 21	Rock Island No. 8	Hartshorne, Okla	do	10
1909	Oct. 31	Franklin No. 2	Johnstown, Pa	do	13
1909	Nov. 9	Auchincloss	Kingston, Pa	Mine fire	9
1909	Nov. 13	St. Paul No. 2	Cherry, Ill	do	256
1909	Dec. 11	Baker No. 5	Clay, Ky	Mine explosion	7
1909	Dec. 23	Mine A	Herrin, Ill	do	8
1910	Jan. 11	Nottingham	Wilkes-Barre, Pa	do	7
1910	Jan. 31	Primero	Primero, Colo	do	75
1910	Feb. 1	Browder	Browder, Ky	Powder and mine explosion.	34
1910	Feb. 5	Ernest No. 2	Ernest, Pa	Mine explosion	12
1910	Feb. 8	Barthell No. 1	Stearns, Ky	do	6
1910	Mar. 12	South Wilkes-Barre No. 5	Wilkes-Barre, Pa	do	7
1910	Mar. 31	Great Western No. 2	Wilburton, Okla	do	6
1910	Apr. 20	Mulga	Mulga, Ala	do	40
1910	Apr. 21	Amsterdam	Amsterdam, Ohio	do	15
1910	May 5	Palos No. 3	Palos, Ala	do	83
1910	Oct. 3	Roslyn No. 4	Roslyn, Wash	do	10
1910	Oct. 8	Starkville	Starkville, Colo	do	56
1910	Nov. 3	Yolando No. 1	Tuscalum, Ala	do	5
1910	Nov. 6	Lawson	Black Diamond, Wash	do	16
1910	Nov. 8	Victor American No. 3	Delagua, Colo	Mine fire and explosion	79
1910	Nov. 11	Shoal Creek No. 1	Panama, Ill	Mine explosion	6
1910	Nov. 25	Providence No. 3	Providence, Ky	Powder and mine explosion.	10
1910	Dec. 14	Greeno	Tacoma, Va	Mine explosion	8
1910	do	Leyden	Leyden, Colo	Mine fire	10
1910	Dec. 31	Lick Fork	Thacker, W. Va	Mine cars	10
1911	Jan. 20	Carbon Hill	Carbon Hill, Va	Mine explosion	5
1911	Feb. 9	Cokedale	Trinidad, Colo	do	17
1911	Mar. 18	No. 16	Mineral, Kans	do	5
1911	Mar. 22	Hazel	East Canonsburg, Pa	Fall of roof	9
1911	Apr. 7	Price-Pancoast	Throop, Pa	Mine fire	73
1911	Apr. 8	Banner	Littleton, Ala	Mine explosion	128
1911	Apr. 24	Ott No. 20	Elk Garden, W. Va	do	23
1911	May 11	Boston	Larksville, Pa	Mine fire	5
1911	May 27	Cameron	Shamokin, Pa	Mine explosion	5
1911	July 13	Sykesville	Sykesville, Pa	do	21
1911	Aug. 1	Standard-Pocahontas	Dixopoca, W. Va	do	6
1911	Sept. 12	Marvin	Scranton, Pa	Mine cars	5
1911	Oct. 3	Drifton No. 2	Freeland, Pa	Cave-in	5
1911	Oct. 23	O'Gara No. 9	Harrisburg, Ill	Mine explosion	8

TABLE 39.—*Coal-mine accidents in the United States in which five or more men were killed*—Continued.

Date.		Name of mine.	Location of mine.	Nature of accident.	Killed.
1911	Nov. 9	Adrian	Punxsutawney, Pa	Mine explosion	8
1911	Nov. 18	Bottom Creek	Vivian, W. Va	do	18
1911	Dec. 9	Cross Mountain	Briceville, Tenn	do	84
1912	Jan. 9	Parrish	Plymouth, Pa	do	6
1912	Jan. 16	Carbon Hill	Carbon Hill, Va	Dynamite explosion	5
1912	Jan. 19	Central	Central City, Ky	Mine explosion	5
1912	Jan. 20	Kemmerer No. 4	Kemmerer, Wyo	do	6
1912	Feb. 22	Western No. 5	Lehigh, Okla	Mine fire	9
1912	Mar. 20	San Bois No. 2	McCurtain, Okla	Mine explosion	73
1912	Mar. 26	Jed	Jed, W. Va	do	82
1912	Apr. 21	Coil	Madisonville, Ky	do	5
1912	June 18	Hastings	Hastings, Colo	do	12
1912	July 11	Panama	Moundsville, W. Va	do	8
1912	July 16	Old Dominion No. 1	Carbon Hill, Va	do	8
1912	July 24	Superba	Evans Station, Pa	Cloudburst flooded mine	15
1912	Aug. 13	Abernant	Abernant, Ala	Mine explosion	18

The table shows that the 275 accidents listed resulted in the death of 6,778 men, an average of 24.6 for each accident. Of these accidents there were 135 that killed from 5 to 9 men each, a total of 859; 82 that killed from 10 to 24 men each, a total of 1,237; 25 that killed from 25 to 49 men each, a total of 870; 18 that killed from 50 to 99 men each, a total of 1,222; 11 that killed from 100 to 199 men each, a total of 1,534; 3 that killed from 200 to 299 men each, a total of 695, and 1 that killed 361 men.

COMPARATIVE STATISTICS OF FATAL ACCIDENTS IN THE COAL AND METAL MINES IN THE UNITED STATES IN THE CALENDAR YEAR 1911.

Table 40 shows the number of men employed, the number of men killed, and the death rate per 1,000 employed in the coal mines as compared with the metal mines of the United States. Although the number of men killed in the metal mines was 695 as compared with 2,719 men killed in the coal mines, the death rate per 1,000 employed in the metal mines was 4.19 as against 3.73 for the coal mines. These figures show that in the United States during 1911 metal mining was a more dangerous occupation than coal mining.

The year having the worst record for large accidents was 1907, when 918 men were killed by accidents that caused the death of five or more men each. Since the organization of the Bureau of Mines in 1910 the total number of deaths due to accidents of this magnitude has shown a steady decrease. In 1910 the deaths from such accidents were 495, in 1911 they were 425, and in 1912 only 252. The greatest two disasters during 1912—at the San Bois No. 2 mine, McCurtain, Okla., and at the Jed mine, Jed, W. Va.—were mine explosions.

TABLE 40.—*Comparative statistics of fatal accidents in the coal and metal mines in the United States in the calendar year* **1911.**

State.	Number employed.		Total number killed.		Number killed per 1,000 employed.	
	Coal mines.	Metal mines.	Coal mines.	Metal mines.	Coal mines.	Metal mines.
Alabama	22,003	4,101	209	10	9.50	2.44
Arkansas	5,338	584	12	2	2.25	3.42
Arizona	....	12,768	....	70	....	5.48
California	[a] 60	10,877	0	38	.00	3.49
Connecticut	....	164	....	0	....	.00
Colorado	14,373	10,404	91	43	6.33	4.13
Florida	....	4,305	....	9	....	2.09
Georgia	510	1,001	0	2	.00	2.00
Idaho	9	4,801	0	23	.00	4.79
Illinois	75,656	848	172	1	2.27	1.18
Indiana	20,991	4	46	0	2.19	.00
Iowa	16,852	244	40	1	2.37	4.10
Kansas	11,823	729	42	2	3.55	2.74
Kentucky	24,124	461	45	3	1.87	6.51
Maine	....	81	....	0	....	.00
Maryland	6,079	231	15	0	2.47	.00
Massachusetts	....	118	....	0	....	.00
Michigan	3,248	31,584	7	134	2.16	4.24
Minnesota	....	16,548	....	76	....	4.59
Missouri	9,607	9,901	8	38	8.33	3.83
Montana	3,864	13,346	13	62	3.36	4.65
Nevada	....	6,210	....	50	....	8.05
New Hampshire	....	100	....	0	....	.00
New Jersey	....	1,739	....	23	....	13.23
New Mexico	3,700	2,450	21	11	5.68	4.49
New York	....	3,202	....	10	....	3.12
North Carolina	....	997	....	4	....	4.01
North Dakota	760	....	1	....	1.32	....
Ohio	45,459	362	109	0	2.40	.00
Oklahoma	8,729	418	33	0	3.78	.00
Oregon	304	1,394	1	2	3.29	1.43
Pennsylvania	345,048	862	1,239	1	3.59	1.16
South Carolina	....	984	....	0	....	.00
South Dakota	....	2,519	....	8	....	3.18
Tennessee	11,124	4,454	115	10	10.34	2.25
Texas	4,980	248	8	0	1.61	.00
Utah	3,446	7,710	14	49	4.06	6.36
Vermont	....	180	....	0	....	.00
Virginia	8,107	3,971	68	6	8.39	1.51
Washington	7,236	1,569	27	3	3.73	1.91
West Virginia	66,800	54	350	1	5.24	18.52
Wisconsin	....	2,844	....	3	....	1.05
Wyoming	8,118	612	33	0	4.07	.00
Total	728,348	165,979	2,719	695	....	....
Average	....	....	....	....	3.73	4.19

[a] Includes Alaska.

MORTALITY AMONG COAL MINERS AS COMPARED WITH THAT AMONG PERSONS ENGAGED IN OTHER INDUSTRIES.

Tables 41 and 42, compiled from published records of the Prudential Insurance Co. of America,[a] show the causes of mortality among coal miners and various other industrial workers and give the percentage of deaths by principal causes. Table 41 indicates that the percentage of deaths from accidents and from pneumonia and other respiratory diseases is larger for coal miners than for any other class of workers, and that there is a relatively small percentage of deaths among coal miners from tuberculosis. In Table 42, which shows the causes of mortality in different branches of mining, it will be seen that both the percentage of deaths due to accidents and the percentage of deaths from tuberculosis and pneumonia among the metal miners is greater than among coal miners. Among the copper miners the percentage of deaths due to accidents is lower than in the case of coal miners, but the percentage of deaths due to tuberculosis and pneumonia is much higher. The tables follow.

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[a] Exhibits of the Prudential Insurance Co. of America, international congress of hygiene and demography, Washington, D. C., 1912.

TABLE 41.—*Principal causes of mortality in different occupations.*

Occupation.	Cause of death.						
	Accidents.	Tuberculosis.	Pneumonia and other respiratory diseases.	Urinary diseases.	Apoplexy, paralysis, and other nervous diseases.	Heart disease.	All other causes.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Coal miners	22.9	11.1	20.7	8.0	7.7	6.8	22.8
Iron and steel workers	15.3	19.4	12.5	9.9	10.0	8.8	24.1
Machinists	10.0	27.7	10.4	10.0	9.1	8.7	24.1
Masons	9.0	17.7	13.4	13.0	10.1	10.1	26.7
Painters	8.6	23.8	9.9	15.1	10.7	8.1	23.8
Carpenters	7.8	16.1	11.1	13.4	13.6	11.4	26.6
Textile workers	7.0	28.4	12.4	11.5	9.4	9.1	22.2
Clerks	6.7	36.7	10.3	9.6	8.1	7.9	20.7
Farmers	5.8	10.2	11.9	12.9	17.1	12.7	29.4

TABLE 42.—*Principal causes of deaths among coal and metal miners (ages 25 to 64).*

Occupation.	Cause of death.		
	Accidents.	Tuberculosis and pneumonia.	All other causes.
	Per cent.	*Per cent.*	*Per cent.*
Coal miners (1907–1910)	22.92	25.28	51.80
Copper miners in one of the principal copper-producing States (1907–1911)	17.06	43.45	39.49
Metal miners (1911)	30.51	31.63	37.86

PUBLICATIONS ON MINE ACCIDENTS AND METHODS OF MINING.

The following Bureau of Mines publications may be obtained free by applying to the Director, Bureau of Mines, Washington, D. C.:

BULLETIN 10. The use of permissible explosives, by J. J. Rutledge and Clarence Hall. 1912. 34 pp., 5 pls., 4 figs.

BULLETIN 17. A primer on explosives for coal miners, by C. E. Munroe and Clarence Hall. 61 pp., 10 pls., 12 figs. Reprint of United States Geological Survey Bulletin 423.

BULLETIN 20. The explosibility of coal dust, by G. S. Rice, with chapters by J. C. W. Frazer, Axel Larsen, Frank Haas, and Carl Scholz. 204 pp., 14 pls., 28 figs. Reprint of United States Geological Survey Bulletin 425.

BULLETIN 44. First national mine-safety demonstration, Pittsburgh, Pa., October 30 and 31, 1911, by H. M. Wilson and A. H. Fay, with a chapter on the explosion at the experimental mine, by G. S. Rice. 1912. 75 pp., 7 pls., 4 figs.

BULLETIN 46. An investigation of explosion-proof mine motors, by H. H. Clark. 1912. 44 pp., 6 pls., 14 figs.

BULLETIN 48. The selection of explosives used in engineering and mining operations, by Clarence Hall and S. P. Howell. 1912. 50 pp., 3 pls., 7 figs.

BULLETIN 52. Ignition of mine gases by the filaments of incandescent electric lamps, by H. H. Clark and L. C. Illsley. 1913. 31 pp., 6 pls., 2 figs.

BULLETIN 65. Oil and gas wells through coal beds; papers and discussions, by G. S. Rice, O. P. Hood, L. M. Jones, A. S. Heggem, and others. 1913. 101 pp., 1 pl., 11 figs.

TECHNICAL PAPER 4. The electrical section of the Bureau of Mines, its purpose and equipment, by H. H. Clark. 1911. 12 pp.

TECHNICAL PAPER 11. The use of mice and birds for detecting carbon monoxide after mine fires and explosions, by G. A. Burrell. 1912. 15 pp.

TECHNICAL PAPER 13. Gas analysis as an aid in fighting mine fires, by G. A. Burrell and F. M. Seibert. 1912. 16 pp., 1 fig.

TECHNICAL PAPER 19. The factor of safety in mine electrical installations, by H. H. Clark. 1912. 14 pp.

TECHNICAL PAPER 21. The prevention of mine explosions; report and recommendations, by Victor Watteyne, Carl Meissener, and Arthur Desborough. 12 pp. Reprint of United States Geological Survey Bulletin 369.

TECHNICAL PAPER 23. Ignition of mine gas by miniature electric lamps, by H. H. Clark. 1912. 5 pp.

TECHNICAL PAPER 24. Mine fires, a preliminary study, by G. S. Rice. 1912. 51 pp., 1 fig.

TECHNICAL PAPER 27. Monthly statement of coal-mine accidents in the United States, January to August, 1912, including statistics for 1910 and 1911, compiled by F. W. Horton. 1912. 24 pp.

TECHNICAL PAPER 28. Ignition of mine gas by standard incandescent lamps, by H. H. Clark. 1912. 6 pp.

TECHNICAL PAPER 29. Training with mine rescue breathing apparatus, by J. W. Paul. 1912. 16 pp.

TECHNICAL PAPER 40. Metal-mine accidents in the United States during the calendar year 1911, compiled by A. H. Fay. 1913. 54 pp.

MINERS' CIRCULAR 3. Coal-dust explosions, by G. S. Rice. 1911. 22 pp.

MINERS' CIRCULAR 4. The use and care of mine-rescue breathing apparatus, by J. W. Paul. 1911. 24 pp., 5 figs.

MINERS' CIRCULAR 5. Electrical accidents in mines; their causes and prevention, by H. H. Clark, W. D. Roberts, L. C. Ilsley, and H. F. Randolph. 1911. 10 pp., 3 pls.

MINERS' CIRCULAR 6. Permissible explosives tested prior to January 1, 1912, and precautions to be taken in their use, by Clarence Hall. 1912. 20 pp.

MINERS' CIRCULAR 9. Accidents from falls of roof and coal, by G. S. Rice. 1912. 16 pp.

MINERS' CIRCULAR 10. Mine fires and how to fight them, by J. W. Paul. 1912. 14 pp.

MINERS' CIRCULAR 11. Accidents from mine cars and locomotives, by L. M. Jones. 1912. 16 pp.

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